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NATIONAL ASSOCIATION OF COST ACCOUNTANTS

YEAR BOOK
1927

PROCEEDINGS OF THE
EIGHTH INTERNATIONAL COST CONFERENCE

At the Palmer House
Chicago, Illinois
June 13, 14, 15, 16, 1927

NATIONAL ASSOCIATION BUILDING
26 WEST 44TH STREET, NEW YORK CITY

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NATIONAL ASSOCIATION
OF
COST ACCOUNTANTS
NOVEMBER, 1927

Printed in the United States of America by
J. J. LITTLE AND IVES COMPANY, NEW YORK

TABLE OF CONTENTS

PAGE

National and Chapter Officers 1927-28 5

SESSION I

The Economic Effect of Taking Business at or Below Normal Cost

Opening Remarks and President's Address 21
C. R. Stevenson 22
Discussion 75
Resolutions 87

SESSION II

What Have We Done to Make Our Cost Results More Vivid and Effective?

A. W. Bass 94
Frank B. Wolfe 109
T. M. McNiece 113
J. F. Stiles 121
Harry A. Bullis 122
G. A. Torrence 127
Discussion 131

SESSION III

The Practical Application of Standard Costs

Charles A. Williams 142
J. Thomas Otto 159
E. H. Wildt 171

SESSION IV

The Practical Application of Standard Costs

P. T. Skove 189
O. V. Mahan 203

SESSION V

FORECASTS, BUDGETS AND CONTROLS

PAGE
J. O. McKinsey 237
William M. Bechler 254
Earl D. Page 263

SESSION VI

FORECASTS, BUDGETS AND CONTROLS

Morton J. Baum 276
G. R. Lohnes 292
E. F. Kitendaugh 297
W. F. Woodbury 315

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Publications—ROBERT BURNS, *American Insulating Machinery Co.*, Fairhill and Huntingdon Sts., Philadelphia, Pa.
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Meeting Day—Second Thursday.

SESSION I

THE ECONOMIC EFFECT OF TAKING BUSINESS AT OR BELOW NORMAL COST

TUESDAY MORNING, JUNE 14, 1927

This session was organized under the direction of

C. R. STEVENSON

Stevenson, Harrison & Jordan, New York City

CHARLES R. STEVENSON was graduated from Harvard with the degree of B. S. in 1902. He was employed for one year as Assistant Metallurgical Engineer of the Homestead Steel Works of the Steel Corporation and for one year as Assistant Superintendent of the U. S. Steel Casting Company at Everett, Mass. From 1904-1911, he was associated as Junior Partner with the firm of Miller, Franklin & Stevenson. In 1911 and 1912, he served as General Manager of the Thomas Motor Car Company of Buffalo, N. Y., and from 1912 to 1915 as General Manager of the National Veneer Products Company of Mishawaka, Indiana. In 1916 he organized The Stevenson Corporation, engaging in the practice of management engineering, which in 1925 was consolidated with G. Charter Harrison & Associates and with J. P. Jordan, forming the present firm of Stevenson, Harrison & Jordan.

Mr. Stevenson has been member of the Board of Directors of the National Association of Cost Accountants for the last six years; and has served for three years as Director-in-Charge of Chapters and one year as Vice-President. He is also a member of the Society of Industrial Engineers.

THE ECONOMIC EFFECT OF TAKING BUSINESS AT OR BELOW NORMAL COST

THE first session of the Eighth International Conference of the National Association of Cost Accountants was opened Tuesday morning by President C. M. Finney, Vice-President of the Worthington Pump and Machinery Corporation.

After an invocation by the Reverend Aubrey S. Moore, and a silent tribute in memory of Clinton H. Scovell, former President of the Association, President Finney in his opening remarks said:

PRESIDENT FINNEY: You have no doubt all read our message of welcome and greetings, but it is my duty and my privilege to extend to you orally a most cordial welcome to this, the Eighth International Cost Conference. It is indeed gratifying to your officers and directors, and doubtless to the membership as a whole, to see the tremendous growth in the attendance at these sessions, and the ever-increasing interest in these annual conferences.

Tremendous interest has been shown in the various chapter meetings throughout the year, and as a climax of the year's work we all welcome this opportunity to exchange views with men from different localities, engaged in different activities of various enterprises. If you will, therefore, enter fully into the spirit of the meetings, the work will unquestionably be broader in scope than that covered in our monthly chapter meetings.

Everyone, be he member or guest, is expected to participate in the discussions, regardless of whether he is giving or seeking information. This is an association of service wherein we have an opportunity to help each other and to be helped ourselves.

Service has been described as the giving of ourselves that other men shall come to know what we have acquired in the way of knowledge.

The men who have organized these sessions have expended a very substantial amount of time and effort in an endeavor to be of real service to you and this Association. The sessions are yours.

We hope the subjects which relate to some of the outstanding problems of the day will be of considerable interest to you and that you will enter freely and fully into the discussions.

May I call your attention to the fact that we regard the discussions as a very important part of our proceedings, which all in attendance are entitled to receive. Will you therefore address all of your remarks to the presiding speaker and avoid as far as possible, close range discussions which cannot be heard by all?

I have purposely made these remarks very brief, in order to allow more time for the very important part of our program this morning, a subject of tremendous interest, and one which I hope will provoke a considerable amount of discussion.

The subject of this morning's session is "The Economic Effect of Taking Business at or Below Normal Cost." This session has been organized by a gentleman whom you all know very well, Mr. C. R. Stevenson, who will preside.

Mr. Stevenson took the chair and presented his paper:

THE ECONOMIC EFFECT OF TAKING BUSINESS AT OR BELOW COST

C. R. Stevenson

Stevenson, Harrison & Jordan

I AM very glad to be here with you all this morning. It seems to me just like a great big chapter meeting. I have had a good deal of experience in talking to chapter meetings, and I think I am going to feel pretty well at home, because as I look around the room I see you men whom I have met and talked to at the various chapter meetings I have visited during the last three or four years.

In deciding on the subject for this morning's session your Board of Directors was guided by the belief that the question of taking business at or below normal cost is one of the most important questions which American business has to consider at this time. In the past three years American business has passed through a rather unusual period. We have enjoyed extraordinary prosperity. There have been constantly increasing volumes of goods moving. Yet, during this period of prosperity we have seen, contrary to

all previous experience, a gradual reduction in commodity prices. We find competition becoming constantly keener and more intense. We find that the productive capacity of nearly all of our industries is in excess of the consumption capacity, and we find constantly increasing complaint on the part of most business men that competition is becoming keener, harder, more difficult to meet, and that the profit margins are being reduced.

A number of the larger and smaller companies have met this condition by sound merchandising policies, by firm determination to maintain their prices at a profitable level, and by a careful and intensive study of means of reducing costs, so that even at the reduced levels, profits can be made. But the fact remains that in many of our industries prices are being forced down to such an extent that profits are becoming almost an impossibility. In the last three or four years, notwithstanding the period of prosperity which we have gone through, many of our industries have made no profits at all.

It seemed to your Board that it would be a splendid thing to investigate carefully the feeling of the business community on the policy, which so many companies have adopted, of selling goods at or below cost in an effort to secure more than their normal share of the available business. Accordingly, they asked me to organize this session, and as a preliminary step, to prepare and send out a questionnaire and circular to a large number of representative business houses of the country. Each of you has been provided with a copy of this circular and questionnaire.

The questionnaire and circular were as follows:

QUESTIONNAIRE

1. Do you believe that business should ever be taken at normal cost?	YES NO
2. Do you believe that business should ever be taken *below* normal cost?	YES NO
3. Do you believe that the theory of incurring losses by taking business at or below normal cost with the idea of absorbing overhead is sound?	YES NO
4. Do you believe that the financial loss incurred in keeping your organization intact by taking business at or below normal cost benefits you in the long run?	YES NO

5. Do you believe that in the long run the gain from greater buying power sufficiently offsets the financial losses incurred by taking business at or below normal cost? YES NO

6. Do you believe that you can take business at or below normal cost without affecting adversely the industry of which you are a part? YES NO

7. Do you consider it fair to other concerns in the same industry to take business at or below normal cost? YES NO

8. Do you believe that any industry as a whole in its competition with other industries should *ever* take business at or below normal cost? YES NO

We $\frac{\text{are}}{\text{are}}$ $\frac{\text{not}}{}$ submitting further comments on a separate sheet:

We will be glad to receive the resume of the data you secure on this subject as we believe it deals with a most vitally important question.

Yours very truly,

Company .....

Address .....

Official .....

CIRCULAR

MANUFACTURERS OF AMERICA
GENTLEMEN:

May we ask your co-operation in the securing of data to be used at a session of the National Association of Cost Accountants at their annual International Conference at Chicago, June 13, 14, 15, and 16, 1927. The subject of this session is to be:

THE ECONOMIC EFFECT OF TAKING BUSINESS AT OR BELOW NORMAL COST

This subject is of supreme importance to every industrial concern. The problem of completely retaining an efficient organization when business slacks off is one that inevitably arises, and it is but natural for *every* concern to reason that by dropping prices to some extent it will secure business to keep its operations on a level keel, or nearly so. Granting that prices are reduced enough to accomplish this result in one or more plants of an industry, what is the effect on the industry as a whole? If every concern acted in identically the same way at the same time, what would happen?

Presumably the amount of business to be secured by all the concerns in any one industry is a certain fixed amount, lowered prices probably rarely increasing the available business; therefore it resolves itself into a competition by those concerns within an industry as to who gets *more than his normal share at reduced prices,* often below normal cost. Or if

some extra business *is* developed by reduced prices, it means that certain customers are loaded with goods beyond their requirements for the time being, with the result that these customers are out of the market when conditions improve, thereby depressing the speed of return to good price conditions. The entire industry suffers from this procedure.

To permit of any opinion on this subject we must define "Normal Costs." For the purposes of this question, let us assume "Normal Costs" to mean the manufacturing cost of products figured while running the business at what might be regarded as a reasonably full operating speed, with due regard for plant upkeep, labor shortages and all other such items, and with careful consideration of the share of business which may rightfully be considered as belonging to the business under average conditions. This plane of operation is neither the highest nor the lowest. It is a mean somewhere between the two depending on location of plant, general trend of the industry, etc.

When we say, therefore, "Taking Business at or Below Normal Cost," it means that business will be taken either at or actually below the manufacturing cost which is the *best we can hope to reach in the long run.* Therefore, it means definitely taking business at somewhat of a loss if we cut below the normal cost.

In some lines of industry lowered prices create new markets. Cheap automobiles, radios and pianos tap fields which otherwise would be untouched. But our point at issue is not on the question of market broadening by the production of cheaper goods, but rather the solely internal question, assuming that the bottom of the market has been touched so far as field possibilities are concerned, as to whether or not it *ever* pays to take business at or below normal cost.

It may be said that the buying power for materials demands certain quantities. True enough, but to what extent does this justify selling below normal cost?

It is often argued that the major portion of the overhead or burden will exist irrespective of volume of business, and that it is better to save *part* of this by taking business, for instance, at the direct labor and material cost plus, say, one half the burden cost. The question is whether or not the effect of securing this business from some competitor at this sacrifice is a sound practice in the long run.

Altruistic motives in keeping men at work are mentioned. But what is the ratio of good accomplished for the few as compared to the damage done to many by disturbing the normal level of returns for goods produced?

As each concern in an industry represents to a more or less degree the industry itself in its individual transactions, does or does not the cutting of prices to a point at or below normal cost by any one or more concerns work a serious injury to the industry as a whole from which it takes a long time to recover?

In the last analysis, therefore, what *is* the economic effect of taking business at or below normal cost? An entire session is to be given to this subject on *Tuesday* morning, June 14th, at the Chicago Conference as

explained in the first paragraph. Our Mr. C. R. Stevenson is in charge of this session, and it would be a matter of incalculable value if we could secure some hundreds of replies to the questions given on a separate sheet herewith. These answers will not only be used for this session, but we will send to each concern contributing their answers a complete résumé of the answers we receive and the conclusions drawn after the conference in June.

Will you take a few moments and answer the questions on the enclosed sheet and mail it to us right away? We are sure that the membership of four thousand earnest men of the National Association of Cost Accountants will appreciate it to the limit, and we know that it will give Mr. Stevenson some wonderful data.

Better still, we would far rather have you write your ideas to us and omit the "yes" and "no" answers; or, qualify your direct answers with any thoughts which you might desire to contribute to this discussion.

These conferences of the National Association of Cost Accountants are open to all who are interested, and we can assure you that a representative of your company would be most welcome and would be amply repaid for attending not only this session, but all the sessions of the conference.

When it is all digested we will send those who contribute the entire data with conclusions.

Thanking you for your co-operation in the consideration of this subject which is of such great importance to industry, we are—etc.

You will note that we have used the circular to state the general problem which we are considering. We have tried to set up a definition of "normal costs" which most nearly complies with the understanding of normal costs in the minds of the majority of you gentlemen in this organization and which at the same time would be understandable to the average business man. We have set forth some of the motives and circumstances to which price cutting is commonly attributed. We have asked those to whom the circular and questionnaire were directed to reply to the questionnaire by answering the eight questions and especially did we urge that those interested should respond with letters of comment or qualification amplifying their replies so far as they cared to do so.

The circular and questionnaire were mailed directly to 7,893 of the larger and more representative manufacturers of the country. They are all rated at $500,000 or better. Of course some of them are not doing a very large volume of business, but many are doing a tremendous volume. A good many requests were received for additional copies and in some cases the executive heads of trade associations asked to be supplied with a sufficient number to permit

them to put the inquiry into the hands of each of their members. All told, I think we may safely say that the total number of questionnaires put out was in the neighborhood of 8,500.

We have classified the replies in this tabulation which has been furnished to each of you. It is a piece of data which I think will be interesting for you to take home and study in detail, to see the different reactions in various broad groups of industries to these various questions. Each table represents one question the replies to which have been tabulated.

I have before me the tabulated results of the questionnaires which were returned. These total 696, or a little more than 8% of the number sent out. In addition to these I have in hand some 25 or 30 additional returns received too late to be incorporated in the tabulation. The figures which I shall present to you are based, therefore, on 696 returns.

To me the most remarkable phase of this investigation was the extraordinary number of cases in which executives of large manufacturing companies—presidents, vice-presidents, treasurers and controllers—sat down and dictated letters of considerable length, commenting on the various questions embodied in the circular and questionnaire, outlining the seriousness of the problem in their own industries, analyzing the causes for unsatisfactory price conditions existing and in many cases offering constructive suggestions for improvement. It was perfectly evident that in many, many cases these letters and treatises must have involved many hours of thought and careful preparation on the part of the executives who submitted them. Frequently they ran to as many as five or six pages.

Of the total returns which, as I have said, exceeded 700, considerably over 200 consisted of detailed letters of comment, either supplementing or taking the place of the questionnaire itself.

Frankly, we have been so overwhelmed by the extraordinary response which this survey has elicited and by the enormous amount of material which these executives have put at our disposal that our most difficult task has been to condense and compile the results in such a way as to make them presentable in the hour or so at my disposal.

You will have already noted that eight specific questions were incorporated in our questionnaire. Naturally these questions are pretty closely related, and yet each one has been so phrased as to

attack a specific phase of the subject. I think it will be most interesting to take up the response to this questionnaire question by question, to see, in terms of the tabulated figures, what the response has been, and then to read as many as possible of the written comments which various executives have made on each question.

I have before me the numerical tabulation of all the letters received in time to be included. These letters have been classified and the classification includes 115 separate industries or industries manufacturing specific lines of product. Many of these 115 classifications are in themselves very broad and if the number of returns had justified it, they might have been subdivided to a still greater extent. These 115 separate industries have then been grouped into 10 broad groups.

Let us now take up the tabulation of the returns on Question No. 1.

Question 1. Do you believe that business should ever be taken at normal cost?

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	..	11	32	10	58
	100%	..	10%	29%	9%	52%
Machinery, Tools, Hardware & Metal Products	157	4	20	49	6	78
	100%	2%	13%	31%	4%	50%
Textiles	70	4	11	32	..	23
	100%	6%	15%	46%	..	33%
Clothing Apparel & Accessories	50	3	7	22	1	17
	100%	6%	14%	44%	2%	34%
Wood & Wood Products	77	2	16	30	..	29
	100%	3%	21%	39%	..	37%
Paper & Paper Products	47	1	5	22	2	17
	100%	2%	11%	47%	4%	36%
Cereals, Food Products & Tobacco	37	1	3	17	2	14
	100%	3%	8%	46%	5%	38%
Mineral & Ceramic Products	40	1	6	16	..	17
	100%	3%	15%	40%	..	42%
Chemical & Allied Processing Industries	43	..	6	21	..	16
	100%	..	14%	49%	..	37%
Diversified Industries	64	1	16	21	..	26
	100%	1%	25%	33%	..	41%
Grand Total Returns	696	17	101	262	21	295
Percentages	100%	2%	15%	38%	3%	42%

Of 696 returns on Question 1, 17, or 2%, did not reply to this particular question; 101, or 15%, replied YES, but qualified their reply in some way; 262, or 38%, replied YES without qualification; 21, or 3%, replied No with some qualification; 295, or 42%, responded with unqualified No.

Now, before going further into consideration of Question 1, I want to compare the returns on Question 2, which was:

Question 2. Do you believe that business should ever be taken below normal cost?

SUMMARY BY GROUPS OF INDUSTRIES:	Total Returns	No Reply	Qualified YES	YES	Qualified No	No
Iron & Steel and Iron & Steel Products	111	1	5	12	4	89
	100%	1%	4%	11%	4%	80%
Machinery, Tools, Hardware & Metal Products	157	4	11	14	7	121
	100%	3%	7%	9%	4%	77%
Textiles	70	3	8	16	1	42
	100%	4%	12%	23%	1%	60%
Clothing, Apparel & Accessories	50	4	5	6	..	35
	100%	8%	10%	12%	..	70%
Wood & Wood Products	77	2	8	6	2	59
	100%	3%	10%	8%	3%	76%
Paper & Paper Products	47	2	4	8	1	32
	100%	4%	9%	17%	2%	68%
Cereals, Food Products & Tobacco	37	1	3	9	2	22
	100%	3%	8%	24%	5%	60%
Mineral & Ceramic Products	40	1	5	5	..	29
	100%	3%	12%	12%	..	73%
Chemical & Allied Processing Industries	43	..	3	13	..	27
	100%	..	7%	30%	..	63%
Diversified Industries	64	1	10	6	1	46
	100%	1%	16%	9%	2%	72%
GRAND TOTAL RETURNS	696	19	62	95	18	502
Percentages	100%	3%	9%	14%	2%	72%

The 696 returns included 19, or 3%, who did not reply to this Question 2; 62, or 9%, who gave a qualified YES; 95, or 14%, who gave an unqualified YES; 18, or 2%, who qualified their No; and 502, or 72%, who responded with an unqualified No.

We find, therefore, that 30% of the total returns came from people who unqualifiedly stated that they did not believe that business should ever be taken below normal cost, but who believe that business should sometimes be taken at normal cost. This figure of 30% is arrived at by taking the difference between the 72% who replied to Question 2 with an unqualified No and the 42% who replied to Question 1 with an unqualified No. It is apparent that a very considerable proportion of our manufacturers draw a sharp line of distinction between selling *at* normal cost and selling *below* normal cost.

It is a serious question in my mind whether a great many of these manufacturers who make this distinction are equipped with cost systems sufficiently sound and sufficiently precise to enable them to carry this discrimination out in the actual conduct of their own business.

I want to put before you some of the comments which have been made on Questions 1 and 2. I group these questions together because the comments and qualifications with which the replies were made group themselves into a rather similar series of classes for both questions. That is, the same excuse or the same motive for selling his product at normal cost is in many cases given as an equally cogent motive for selling below normal cost.

There is one other point in regard to the figures I have quoted which I want to make clear. We must look upon a qualified No reply as practically equivalent to a qualified YES reply. The only distinction would be something like this: The man who replied No to Question 1 but with certain exceptions, is expressing his theoretical disagreement with the policy, but the recognition of what he feels to be certain reasons why or occasions when he must sell at cost. The man who replies YES, but qualifies it, does so by putting certain limitations upon the situation or circumstances under which he would be willing to sell at normal cost. The two are practically equivalent. To my mind we may group together all of the qualified YES's, the unqualified YES's and the qualified No's. If we do this we find that a majority, or 58%, of our correspondents find some circumstances under which they believe they should sell *at* normal cost, while only 28% believe it is ever desirable to sell *below* normal cost.

Let me list some of the circumstances, motives or excuses which have been given as justification for selling at or below normal cost

and which were submitted as qualifications of replies to Questions 1 or 2:

First, the necessity motive. As a means of meeting already existing price levels. To hold customers of long standing. To hold one's position in his field. To retain the goodwill of distributors and dealers. In other words, to enable the business to ride along and hold its own in a situation for which it is not, or does not feel responsible.

Let us see what some of our correspondents say along this line. The following comments were made on Question 1:

A wire manufacturer: "Yes—To maintain one's relative position by meeting existing levels. No—To take business away from competitors. When there is cut-throat competition I believe it necessary to take business at or below cost if there is anything to be gained over not taking it at all. Otherwise I think the practice is unsound and silly. A reasonable profit should always be maintained unless you are not maintaining your per cent of existing consumption."

Another wire manufacturer: "Yes—as most of the others do it."

A plaster company: "Yes, to retain a good customer."

A furnace manufacturer: "No—except in case of some such situation as above one should hold his customers even if for a time he is obliged to swap dollars."

An expanded metal company: "Yes. In the present condition of general business and the very fierce competition existing, it is in some instances necessary to go down to normal cost in order to hold not only our own position in our industry but the position of many of our distributors or dealers."

Road building equipment: "Only when such a procedure is necessary to keep a prior customer satisfied."

A bed manufacturer: "Your questions are very difficult to answer by Yes and No. The writer's own opinion of the question is that it is perfectly legitimate and often good business to sell goods without a profit through proper channels, but that the American habit of slashing the market as customary is indefensible. By proper channels I mean, for instance, to jobbers who in their turn will sell to the retail merchant at a proper price that will not break the market."

A rubber company: "Under certain conditions it may be necessary to book business at normal cost. We have in mind the retention of old customers held in this manner against the attacks of competitors. We, however, will not take business away from a competitor at price below normal cost."

A malleable castings foundry: "Commenting on your first question—Do you believe that business should ever be taken below normal cost?—which we have answered 'Yes and No,' in explanation of which answer would state that, as to the principle would answer 'No,' but as to the necessity under the conditions above referred to when applying to the work of customers with whom you have been dealing for years on a most friendly basis it is desirable to continue that relationship, therefore the necessity in meeting the competition our answer would be 'Yes' as we should take their business at normal cost if necessary to retain same but should not take it below normal cost, as we have indicated in answer to your Question 2."

An iron and steel company: "Under normal business conditions when the manufacturer has a chance to make a profit we would say 'No.' However, in our experience we are at times forced to take business at normal cost."

A wood veneer manufacturing company: "If business is normal and there is a uniform demand for the product of an industry, we believe it should never be necessary to accept business at normal cost. However, when business is subnormal and our competitors, in an effort to keep their plants in operation, begin reducing prices and selling at cost, it has been our policy for some years to meet these lower prices, providing they are made by reputable, representative and first-class houses, and this we have done for two basic reasons. First, it is the principle and policy of our business to make an honest effort to place our customers in as advantageous a position as are their competitors, who are customers of concerns other than ourselves and in our same line of business. Second, we find it an economic advantage to be able to keep our plant in operation and our forces employed, especially our key men and men of trained mechanical and engineering ability, and this same answer would apply to your second question if normal cost is computed on a direct cost, plus overhead, which latter we admit is as much of an actual cost of producing merchandise as is the cost of raw material and direct labor involved."

An electrical contractor: "Our competitors may be divided roughly into two classes—legitimate and fly-by-nights. To prevent a legitimate competitor from breaking in on a good customer's business it sometimes pays to meet his prices even though his prices are as low as your normal costs."

All of the above comments express a somewhat defensive attitude toward a situation which each one feels is beyond his control. Comments of a similar character and embodying the defensive or necessity motive were made in considerable number to Question 2.

A loose-leaf stationery manufacturer: "Never as a means of retaliation except to temporarily protect established trade from onslaught of

unwise or unfair competition and then *only* as a last resort and after exhausting every possible means to remedy condition."

A carpet manufacturer: "Would modify our answers by saying that as far as the carpet industry is concerned there have been conditions during the last few years which made it necessary to take business below normal cost, as there was no way out of it."

A lamp manufacturer: "Yes. The above answer may seem strange—but 'competition is the life of trade' and 'necessity the mother of invention' and the above is based upon intelligent price cutting if that is possible."

Electrical contractor: "To prevent a fly-by-night from breaking in on a good customer's business, it often pays to meet his prices even though they are below normal cost."

A machinery manufacturer: "We do not think business should ever be taken at or below normal cost except in an emergency case. We are firm believers in maintaining a price for our goods which will show a fair profit. It sometimes happens, however, for one reason or another, that a competitor on a job quotes a price which we believe is below his normal cost and certainly is below our normal cost, and it is then up to us to decide whether or not that particular job is of sufficient value to us to justify taking it at a loss. It is possible this buyer has been a regular customer of ours for a number of years and if we allow our competitor to take this job we will lose him for all time to come."

A fibreboard manufacturer: "The only time we sell at or below normal cost is to meet prices of our competitors. We always consider it wise to keep our prices on the same level as our competitors to prevent what we consider to be our 'regular business' from being taken away from us."

A metal goods company: "For the same reasons as answered to query No. 1. We are frequently confronted with the situation where competition forces us to go below our normal costs and this, I believe, is due to the inefficient methods of many concerns who do not really and honestly know their costs."

A flour miller: "'Normal cost' varies greatly with different producers. In these days, especially, many producers are compelled to take business at or below their 'normal cost' because other manufacturers can make a profit at the prevailing selling prices. Of course, the former will be eventually eliminated."

Closely allied to the attitude displayed in the above quotations is the desperation or last resort motive:

A chain manufacturer says: "Yes, when the choice is between unprofitable business and *no* business."

Another manufacturer says: "Yes, when you have to do it or go broke."

A spring manufacturer says: "We believe there may be, at times, an occasion when, rather than wind up the business, it is profitable to take orders which return only a part of the overhead instead of letting the orders go and so losing all of the overhead."

An iron and steel company: "In our particular line of industry conditions have become such that we are sometimes at a loss to know just what course to pursue. The result is that sometimes we take business at or below cost with the faint hope that we will be able to make this back in the near future. The manufacturer is confronted with the cold fact, that it is either take business at cost or below, or shut down, with the usual bad results following the latter action."

A furnace company: "Assuming that an industry is making no more than a fair profit, it appears to us that any business taken below normal cost adversely affects the industry by increasing the difficulty of getting a fair price. We would consider, however, that it is a matter of degree; and that a particular member of an industry might face conditions where self-preservation demanded and justified taking business below normal cost."

While the defensive attitude is the most frequently met with—the feeling on the part of the manufacturer that what he does contrary to his own wishes and his own best judgment is forced upon him—we do find, when we cover a very large field of different industries, certain situations or conditions under which we must admit there is a good deal to be said in defense of a policy of selling at or below normal cost. Some of these can scarcely be questioned. For example, overstocks or carry-overs of style goods, seasonal lines, or perishable products. Along with these we must also consider obsolete goods, seconds, defective merchandise, close-outs; in general, merchandise which for one reason or another is practically unsalable at levels of normal cost plus a profit.

A textile manufacturer states his case: "Ours is a specialized business, very much subject to fashion fluctuations, and what, therefore, applies to our line may not apply to other lines producing staple products. It is necessary in our product, at times, to accept sales on goods in stock at or below cost, due to either change of styles, overstock or other reasons."

A cotton mill comments as follows: "From our observation there are a few rare instances in which we consider it sound policy to sell at normal cost. For instance, where there has been or is likely to be a change of style or trend that would result in leaving an unsold stock on hand, or if a sudden drop in cost of materials were anticipated before the stock could be moved. Unless in some such exceptional instance we do not think it sound policy to sell goods at or below normal cost and we sin-

cerely believe that this is one of the most annoying and iniquitous practices in the merchandising business of our country. If all manufacturers, as well as merchants, should adopt the rule never to sell anything at or below its normal cost, it would not only give greater stability and promote sound marketing conditions but its effect would be far-reaching, even throughout the ranks of the consumer, and would, we believe, prove a far greater blessing and to a much larger number than can possibly receive any benefit by the cutting or undermining of prices below normal cost. There is also the question of quality and the character of service which would undoubtedly be promoted by abolishing the price-cutting theory."

A manufacturer of fine china says: "Yes, occasionally. We would qualify this to apply to unseasonable merchandise or slightly defective merchandise."

A cloak and suit company: "Yes, to clean up seasonal goods."

Another manufacturer says: "For the disposal of obsolete styles or salvage, I believe it is good business practice to sell at the highest price obtainable regardless of cost. The negative side of this question cannot be disposed of so easily."

A leather goods manufacturer: "Only to close out dead lines."

A furniture company: "Not unless you get stuck with something you cannot sell."

A shirt manufacturer: "Except at end of season to move jobs, seconds, etc."

This is an important point and one which I think we should all have in mind—that in every line of business there comes a time when goods have gone out of style, become obsolete, defective. That is a special case. It doesn't enter into the general broad pricing question at all, but I will include a few more comments dealing with that particular phase of the situation.

Another manufacturer: "We believe that taking business at or below normal cost in an effort to move dead stock or merchandise is a sound business policy. In filling out our line we find that some numbers have to be sold at normal cost in meeting competition, figuring our profit on the sale of the better grade articles in the line."

Another manufacturer: "Yes, if overstocked."

A manufacturer of prepared foods: "We believe that quite often business should be taken at or below normal cost. Some of our goods are perishable when standing for more than a year and we think it is better judgment to sell them at a price than to hold them and lose them. It is very seldom when sales of futures should be sold at or below normal cost."

These comments just quoted have to do with selling at normal cost. The same motive is justified as a reason for selling below normal cost by the following; in reply to Question 2:

A furniture manufacturer: "Yes, for obsolete patterns, etc., but not to stimulate business."

Another furniture manufacturer: "Except in the case of furniture when a pattern proves to be a failure or a very slow seller, prices must be reduced or discounts given to get rid of it regardless of cost. A 'dead' pattern should not be carried very long."

Another manufacturer: "Yes, only to clean up seasonal goods."

A machine tool manufacturer: "No—with one exception, that of closing out a line of goods."

A rubber manufacturer: "We will not deliberately book business at less than normal cost. The only circumstances under which we will sell goods below cost of manufacture is where goods have become obsolete or where seasonal goods are carried over from one season into the next."

A cigar manufacturer: "Yes. In special cases only—where it is necessary to close out old goods."

Another manufacturer: "There are times when the only way to move distress goods is to sacrifice them; otherwise they will rot on your shelves and be a total loss."

I think we must concede that in such lines of textiles, clothing, furniture—all involving the style factor or in the manufacture of goods which are perishable, or which tend to deteriorate—there will arise frequent situations where excess stocks must be dumped. The danger lies in failure to take advantage of every precaution against overstocking and in the difference of judgment by competitors as to just what merchandise may properly be unloaded at a discount.

Some of our correspondents were a little more indefinite in their description of the type of merchandise which might be sold at or below cost. Several specified simply the reduction of inventories or of overstocks as justifiable reason for unloading at cost.

A belting company says: "Yes—When stocks are heavy."

A glue manufacturer says: "Sales at cost are justified to liquidate excess inventories, and to maintain relations with valued accounts against price competition."

A rubber company comments: "Yes, to reduce inventory but not as a general thing."

Obviously it would make a good deal of difference to the industries of which these manufacturers are members and to their competitors, whether the reduction of inventories was carried out on up-to-date competitive items or whether it applied only to obsolete or almost unsalable goods.

Going a little further into the field of aggressive motives we find several suggesting that dumping at or below cost in foreign markets is a perfectly justifiable procedure.

A dyestuff manufacturer answers Question 1: "Yes only in foreign markets."

In reply to Question 2 a manufacturer of varnishes and enamels says: "In many lines the device for increasing volume resorted to is to omit the calculation of overhead on export business, allowing this to rest upon the mere calculation of the actual cost of labor and material. Where this is possible it would, in our opinion, be the most judicious method of increasing volume and least disturbing to the home market in the manufacturer's product."

That is all right; it is a wonderful theory if you can get away with it, but most nations have an anti-dumping clause in their tariffs; we have one in ours, and of course there is only a limited amount of business of that sort available. I don't think it is an important consideration.

A still more aggressive attitude is seen in the comments of those who believe that business should be taken at or below cost to keep newcomers out of their field, even to eliminate the excess productive capacity by squeezing out the weaker ones already in the field, or to eliminate the tendency on the part of consumers to develop their own production facilities.

A manufacturer of printing inks, in reply to Question 1, says: "Yes. We accept business on this basis to discourage the operation of private plants. Our profit comes from increased volume which decreases normal burden and therefore increases profit on other business. In this case we do not take business from competitors, as the *consumer* is manufacturing our product."

A spring manufacturer: "Sometimes advisable to quote below cost to keep a newcomer *out* of an overcrowded industry if he is attempting to break in without knowing his costs."

A manufacturer of heavy chemicals: "Selling below cost frequently is justified. Supply and demand rightly control the prices. If there is a

surplus of demand, producers will not be tempted to sell below cost. If there is oversupply, the unneeded production should be eliminated for the good of the community. The sooner the better, so that the needed labor involved can be diverted to more useful channels. From the cutter's point of view, of course, it is simply a matter of anticipated greater benefit, whether this be by elimination of a competitive plant, or by using a particular item as a leader to gain trade. The ultimate economic effect of price cutting below cost of course often is miscalculated. That is true of all business effort. Before pressing a market below cost, effort of course should be made to increase consumption, but your circular specifically states that your question is confined to conditions under which this is not possible."

One of the most interesting lines of thought which cropped up in these letters appeared in the comments of those whose attitude apparently is the ruthless one of rule or ruin. Everybody thinks he knows in his own industry who is at fault and who is the aggressor in bringing price levels down below normal costs. Few manufacturers are willing to admit their own contributions to or their own responsibility for this situation. It was hardly to be expected that we would find many who would blandly make such comments as these which follow. I think they will speak for themselves, and I am not going to give any clue to the authors.

Answering Question 1:

"We would qualify these answers just to say that we make a part of the consideration, when it seems wise to take business at or below a normal cost, the overcoming of sales resistance in some individual case or cases where we have been *unable to get in without it.*"

"In reference to the attached. Our answer to Question 1 is 'Yes.' The only case where we would feel it advisable to take business at normal cost would be in territory *that we wish to break into.* In other words, a case where the possible loss could be charged to advertising."

"Answering your question literally, your use of the word 'ever' demands 'Yes.' The advisability of taking business at normal cost depends upon the nature of the business, general business conditions in the country, general business conditions in the trade, the individual's business condition, and finally the circumstances surrounding the individual deal. It may be advisable under certain circumstances to take a considerable volume of business covering a considerable period of time at normal cost, and there might be so many justifiable reasons for such action that it would be ridiculous to endeavor to list them. One very good reason for taking business at normal cost, or even below normal cost, would be for *an entering wedge,* which in turn might be classed as advertising."

"Perhaps only as an *advertising idea* do we think it ever right that business should be taken at normal cost. There are a few instances where large users of our product ask for a special price on a small amount of merchandise for a special purpose, and we feel that in cases of this kind, it is proper to supply the request of the customer. But as a general proposition, we say No."

Answering Question 2:

"Yes, on initial orders."

"No, except for introduction purposes."

"No, except an occasional advertising order."

Frankly, gentlemen, I think that these quotations just read explain in large measure why this country is suffering from a serious overdose of underpriced merchandise:—the actions of the man who requires no other excuse to engage in business than the mere fact that he wants to do so; who deems his presence in the industry as sufficient justification for demanding what he considers his share or more, and who honestly thinks that if he is not merchant enough or salesman enough to market his product constructively he is then justified in putting it out on a cut-price basis. I was surprised to have even as many as those just quoted admit such motives. I think there are probably a vastly greater number whose actual business policy is inspired by the same motives, but who very likely answered No to both Questions 1 and 2.

Those men have the old line thought of business; it is simply a question of struggle; whatever they can do to their own benefit, they are entitled to do, irrespective of the effect on competitors and other men in their industries.

I have purposely left until the last those motives for taking business at or below normal cost which were stressed in our circular and which served perhaps as the most frequent mitigation of the offense. There is the old argument that the business is taken to carry all or part of the overhead expense. The following companies would go so far as to take business below cost for this reason:

A machinery manufacturer says: "We do not believe in taking business below *normal* cost, but it is sometimes sound to take business below current cost figures if the cost of the additional volume thus secured is likely to reduce overhead sufficiently to bring the business into the profit-making class."

A manufacturer of automotive accessories: "We are assuming that the normal cost referred to, carries factory overhead and, therefore, it would be advisable to take business at less than normal cost, provided the volume is sufficient to have the effect of reducing the general overhead."

In reply to Question 1 one manufacturer said: "Yes, to balance seasonal sales."

I question whether he would not be a good prospect for the installation of a standard cost system.

The desire to hold together the organization and to keep employees at work was also mentioned repeatedly in comments on Questions 1 and 2.

A wire spring manufacturer says: "In further explanation we might say that taking business at normal cost during times of depression, we figure does not incur a financial loss as is inferred in some of your questions, but the particular orders on which this procedure is followed would show an actual profit on account of having absorbed overhead and thus reduce the total loss during the given period. We do not believe in taking business at a point so much below normal cost that it will show an actual loss as a procedure of this kind not only is detrimental to the concern involved but is detrimental, we believe, to the entire industry. However, taking orders at normal cost during times of depression in order to hold together an organization and keep an efficient manufacturing plant in operation, is a benefit to the industry and the entire lines of business served by such industry, keeping the plant in a position to give service to customers when the demand increases."

An elevator manufacturer comments at some length: "In reply to your Question No. 1 we would answer 'Yes.' Remember, please, that we are speaking now from the effect which this would have on our own particular business. In the elevator business it is necessary for us to have skilled men in the shop, on the electric end and in the drafting room, and it is impossible for us, when there is a slump in business or when competition is very keen, to temporarily lay off some of these men and expect later to reinstall them when a change for the better comes. If we then keep all of the force, our burden is going always to be practically the same, regardless of whether we are doing a good deal of business and receiving good prices, or whether we are doing very little. Of course, when business is good and prices are reasonably high, the burden is automatically taken care of. On the other hand, when business falls off, we are still having the same amount of burden (unless the help are willing to share with us during the slump). We have many times gone on the theory that we have got to take a larger volume of business if the price is cut in order to absorb our burden, and in order to do this we have been compelled to cut the price beyond what we should go."

A manufacturer of tire products: "Referring to Question 1, we justify our action entirely on the grounds of expediency. Our primary reason being to give steady employment to our workers in order to hold our organization intact, and absorb overhead costs. This undoubtedly benefits us, provided the volume taken on this basis is not a very considerable part of the whole volume, and provided the length of time involved is not great. In the long run we consider this policy extremely detrimental to the industry as a whole, as suggested in Question 6."

A pump manufacturer: "We have answered all of your questions 'No,' but the No. 1 question is subject to some elasticity and under certain conditions we believe it might be advisable to accept a limited amount of business at normal cost provided it was done with a view to keeping an organization alive and not allowing employees to become scattered."

In mitigation of affirmative answers to Question 1, I want to record the following comments of those who think that it is all right to sell at normal cost if the necessity exists only for a limited period:

A pump manufacturer: "Yes, during temporary depressions."

A heavy machinery manufacturer: "I believe that in some unusual circumstances of business the volume of orders falls below normal, and that if it can be logically foreseen that this condition will last only a short period, it is good practice to take what business may be had at normal cost."

Another pump manufacturer: "The first question on your list I have answered 'yes,' because I believe under certain conditions this can be done successfully, for a short time, or on certain jobs to keep the organization intact, and bridge a period of short duration without actually sustaining a loss, or at least a very small one. Really, the only argument for this attitude is competition with others in the same industry who are of a different opinion in regard to taking business at or below normal cost."

The same mitigation—namely, the assumption that conditions are only temporary, leads the following to answer Question 2 YES:

A heavy machinery manufacturer: "Only under a temporary emergency and for a short period of time do I believe business should ever be taken below normal cost."

A printing ink manufacturer: "Yes, providing the loss incurred is not as great as would result from curtailed or discontinued operation, and providing it could reasonably be assumed that the condition was temporary and due to competitive or general business conditions."

Another common mitigation of the practice of selling at or below normal cost consists in the qualification that it shall be car-

ried out only with respect to a small fraction of the total volume output of the business; that it shall only be done in rare cases; or that the merchandise sold at or below normal cost consist only of certain competitive items which must be handled in order to retain business on more profitable lines. Some manufacturers have even gone so far as to specify what they believe the safe proportion of at or below cost business. The following are comments of this nature on Question 1:

A clothing manufacturer: "Yes, but not over say 10 per cent of total."

A shirt manufacturer: "Through improvement in machines and methods we are able to produce 33⅓ per cent more shirts in our factories now than we could make three years ago. No additional expenditures for equipment or personnel are necessary to accomplish this. By selling this surplus at cost we can increase our net profits through a reduction in burden on that part of our production which we sell at our regular profit."

A machinery manufacturer: "In times of stress, we believe in taking a limited amount of business at normal cost as an emergency measure, but do not believe in this as a general practice."

An agricultural implement manufacturer: "Might qualify the answer to the first question by the statement that, whereas we do not believe one is ever justified in taking business at a loss, there are times when it is desirable to take business at normal cost in isolated cases to build up a backlog so as to operate profitably on such other business as may be obtained. Our interpretation of 'normal cost' is the unit cost including all direct and indirect expenses and burdens and everything except profit, under operating conditions which have previously been ascertained as the minimum below which the business is never expected to go."

A machine tool manufacturer: "Occasionally it is necessary in our business, and we presume in all businesses, to take a small volume business on certain lines at pretty nearly normal cost in order to retain other business which goes with it, but the competition which forces the price down to normal cost we believe is, in the long run, very unprofitable and is not beneficial."

A woolen textile manufacturer: "In regard to Questions 1 and 2 would say that we have taken a small amount of business at cost or practically that, never at less than cost; but under some circumstances it might even be well to take a small loss on one item if it gave you a monopoly of a customer's business on other items which were profitable and the unprofitable item was taken with the idea of keeping him from shopping around and perhaps diverting other items of his business that were profitable. We do not believe in any case in taking business for our entire production at cost or below cost, and only in special instances as above

mentioned have we done that. In taking business at cost as we have above described, it was not a price that we made, but a price that we had to meet that had been made by a competitor, and the idea of taking the unprofitable item was to keep the rest of the business in line."

A cotton textile manufacturer: "In the cotton industry I believe it is a very general practice to take business at or below normal cost and necessarily so. It is customary to figure our costs on the basis of a full time run with practically 100 per cent of the machinery operating. Competition with the South is particularly severe on certain lines. It has been our general experience that in order to keep the mills operating on a basis which will allow us to come somewhere near our normal cost, it is necessary to sell the most competitive lines at or below cost. It enables us to realize whatever profit there may be on the better lines; otherwise our figured profits would be non-existent due to the increased expenses of curtailed operation."

Replying to Question 2 along the same lines we have comments from one manufacturer who says:

An iron and steel manufacturer: "This company believes that it is profitable to take business below normal cost when it does not interfere with the regular operations of the plants and when the price we quote has no effect on the market of that product. For instance, we manufacture a relatively small amount of certain kind of product, the price being dictated by a number of other large manufacturers. They have beaten the price down until there is no profit in the product. We, therefore, are taking what business we can obtain, at the same selling price that they are giving and this is proving most satisfactory in carrying shop overhead. We believe that selling below normal cost is a very ticklish proposition and should never be attempted unless a company has an efficient cost system and can quickly sum up the result of such action."

A few comments were received in reply to Questions 1 and 2 justifying the "at or below cost" policy where there is a possibility of widening the field of distribution for a product.

A manufacturer of trunks and baggage says: "In some industries it is impossible to sufficiently lower costs to produce acceptable lower priced merchandise, and in these instances establishing a larger field justifies selling some goods at normal cost. At no time should business be taken at normal cost just because conditions show a falling off in the gross volume of an industry. If the gross volume of business of an industry falls off, the cause of this drop must be sought, and if the condition is natural, then a remedy such as decreased production must be depended on as a cure. If the cause is unnatural, and due only to temporary basic condition, then the cause of the slump must be considered and correction there made. Selling at normal cost will not cure a disease originating from a cause which in itself is not first cured."

One manufacturer comments on a situation from which it would appear that his own industry has been encroached upon by some other. He says:

"If a situation develops under which our product is being, in part, supplanted by some other product which we are not equipped to manufacture, we would feel justified in selling below normal cost if this would protect our tonnage during the transition period, thereby giving us time to investigate and enter into the manufacture of new lines."

I want to take up now a little more briefly some of the comments made by those who replied No to Questions 1 and 2. It is very natural, I think, that we received a great many more comments on Questions 1 and 2 by those who replied YES or with a qualified YES or with a qualified No than we did from those who unqualifiedly took the stand that they did not believe business should ever be taken at or below normal cost. Apparently, those who replied YES felt that some explanation or apology was needed. I think that those who replied No felt, most of them, that this answer spoke for itself. Certainly we must give due consideration to the fact that Question 1 elicited 42% of unqualified No's, while Question 2 brought 72% of unqualified No's.

I have tried to classify in some measure the comments made by those who replied No. First let us hear a few who simply feel in a general way that even to sell at normal cost is economically unsound.

A shoe manufacturer says: "There may be exceptional cases where it is justified and where it may work out all right, but we believe that generally it is wrong from every standpoint and in 35 years we have never knowingly taken an order without a profit."

A flour miller says: "The practice of selling goods at or below cost is or should be an economic crime and should be prohibited by law."

Replying to Question 2, a textile mill says: "Taking business below cost is not economically sound and any method of doing business that is not economically sound will eventually fail. Use the long vision, not the short."

A lumber company comments rather pointedly: "The prime object of business is profit, which surely cannot be obtained by selling at a loss."

Some of our correspondents seem to feel that the policy of taking business at normal cost is simply the first step which leads eventually to taking business below cost, and even to ultimate failure of the institution that follows this policy:

A forging company comments: "In our industry it has been proven very detrimental to all who have tried in the past few years to produce even at normal cost. Witness—the discontinuance of those who have done so."

Further suggestions that business failure is not far around the corner comes from two companies in their reply to Question 2:

An iron foundry: "Taking business at below normal costs is the beginning and best sign for heading into bankruptcy, illustrated thusly: 'A sinking man grabbing at a straw.'"

A butter tub manufacturer: "We have sold below normal cost at off-seasons where it seemed inevitable but have held to the minimum and, it appears to us, far less than our competitors. At any rate we have let business in real volume pass to others because we could not reconcile ourselves to any extensive plan of that sort. It would appear that industry is passing through a cycle of selling below normal cost for so-called various reasons but we believe that those who practice it least will better survive. Our observations are that those who practice most selling below normal cost can least afford it and see evidence of it now and then by those very ones being unable to endure and forcing themselves out of business, so to speak, by an over-indulgence in selling below normal cost."

More definite comment as to the bad internal effects of pursuing an "at or below cost" selling policy is found in the following comment by a large pneumatic tool manufacturer:

"In the first place, as I gather from your inquiry your term 'normal cost' coincides with our term 'gross cost,' and by 'gross cost' we mean the total cost of an article carrying its full share of overhead expense so that anything we receive for it above the gross cost figure is a profit. Of course, I understand that no gross cost is accurate. It can only be taken by a law of averages, the inaccuracy being due to the constant fluctuation of the quantity of the material being manufactured, but assuming a gross cost or normal cost being correct, I am not at all in favor of taking work at a normal cost or below it. It has always been my thought that it is a very dangerous thing to do. The danger lies principally in the effect on not only the sales organization but the officials of the company. In the first place, it shows the presence of fear and there is nothing more destructive in my opinion to business than fear. In the second place, if the practice of taking work at cost or below cost is followed even for a short time, a very unhealthy habit is liable to be formed. It is known by everyone whose duty it is to sell goods, that a very large per cent of the purchasing agents will attempt to get as close a price as possible and when once the habit is formed to reduce the price in order to get an order, it will be found that every order will present conditions which would appear to warrant a reduction in price. Of course, I am speaking from the experience of manufacturing and selling an article

made especially for our trade, and while the market may not be as large in number of customers as some other markets, still it is highly competitive and subject to the same tactics of reducing prices as most markets are."

Further replies along this line in answer to Question 2 include two from flour mills as follows:

"Selling below cost is demoralizing and while a manufacturer feels that he is making temporary gain, he finds that in the long run he has lost by it. Until such time, however, as the miller can get organized as the baker has, we are going to have very dull periods in the milling business."

"The sale of flour at or below normal cost is fraught with dangers to the organization that are not usually considered. If an organization sells most of its goods on what may be considered a fair profit and then in order to have a larger output sells the remainder at below cost or even at cost, it tends to demoralize the selling morale of the whole organization, tending to reduce margins in all the business by making lower prices on goods that are sold and paying higher prices for the wheat that is bought. We have found that we can make more money on a restricted output than by forcing business to have a larger output."

Dealing further with Question 1 a knitting mill says:

"We do not believe that business should be taken at or below normal cost. If all competitors would do the same, what would be gained, except the marketing of a product at too low a price and it would be difficult to raise the price to a level showing a reasonable profit at a future time, as there is always opposition to an increase of price on the part of the buyer."

A manufacturer of leather goods says: "This company which has been in business since 1879, with what we believe is a little bit more than usual success, has never taken business at or below normal cost. We do not believe that business should ever be taken on that basis, for we have found that where business is taken at or below normal cost, it affects the entire industry to such an extent that when business again picks up, it is very hard to re-establish the cost and along with the cost the selling prices."

Replying further to Question 1 we have the comment of a rubber company: "We venture an opinion that if facilities in existence are adequate or more than adequate to supply a certain market, it is obviously futile for any manufacturer to attempt to create additional sales from a demand market already satisfied, by offering his product for sale at cost, or even less than cost, unless he has the best of reasons for believing that his competitors are going to sit quietly by and let him walk away, so to speak, with what said competitors may feel is their portion of the business, the retention of which according to all past experience they will most vigorously strive to maintain."

I think a paper specialty company expressed the views of many thousands of manufacturers when he made the following reply to Question 1:

"No, but find it hard to live up to belief."

Doesn't this pretty well summarize the feeling of most of us?

As I went through the enormous volume of correspondence which flowed back in response to our questionnaire, I found quite frequent reference to the effect of chain store buying policies on the manufacturer who has accepted such outlets. This is one of the big problems facing many lines of industry today—namely, what is going to happen to established channels of distribution as larger and larger volumes of merchandise reach the consumer through chain stores, mail order houses and similar outlets. There is a feeling prevalent that this form of distribution cannot supplant our established jobbers and independent retailers, and render the same service to the buying public. At the same time the chain store, and mail order house competition is making it very difficult for some kinds of retailers and jobbers to continue. While this is going on, it would appear from the following comments that the manufacturer enjoying chain store outlets is not lying on a bed of roses.

A food preserving company: "We have been selling our canned foods for less than cost for more than six months and there is no relief in sight. The chain store will buy on this basis and sell at a profit under their own brands."

A beverage manufacturer: "The chain stores are outlets for a large percentage of normal cost business. What will happen to manufacturers when they find the greater percentage of their business is with the chain stores? This will surely come in the food products line. Their profitable outlet is being driven out."

From a shirt manufacturer we get a little lengthier discussion of the same point: "Business taken at or below normal cost enables the retailers purchasing these goods to undersell the small dealer whose limited buying capacity generally compels him to buy at regular prices. This accounts for the tremendous growth of chain stores. We believe that most goods purchased by chain store organizations are sold by the manufacturer at or below normal cost. The latter figures that through increased production made possible by large purchasing power of chain organizations, his costs on regular goods will be decreased with resultant increase of net profits. What he really does is to make the small buyer (from whose purchases the manufacturer makes a legitimate profit) pay him all

the profit, so the big buyer can buy at cost. The small dealer can't survive this competition and it is an interesting speculation as to what the manufacturer will do when through selling at cost to the big fellow, he has ruined the customers who pay him a profit. The recent controversy between the retail grocers and Ford's commissary stores is a case in point. Mr. Liebold, in his first letter, told the little boys that they had no reason for existing, that their methods of doing business were productive of economic waste, etc. Why the Ford Co. subsequently changed their attitude, we don't know. They spoke a great many truths in their first letter."

Replying to Question 2 a leather goods manufacturer says: "The experience of companies who sold goods to Sears Roebuck, Woolworth and Kresge, at below cost, simply to keep factories working during dull periods, has not been such that it would induce other people to follow this example, for a company can soon get into the habit of selling most of their output at below cost, simply to keep the wheels running. Our answer to all of your questions would be No, with both capital 'N' and 'O'."

I am very glad to quote from our replies to Question 1 the following: "We believe that taking business at cost is a very dangerous proposition, and that while there are certain times when taking business at, or even a trifle below cost will give a temporary advantage, it almost always is lost later on. In our opinion, it is better to take an immediate loss than to postpone it by offering merchandise at cost."

Two more constructive and suggestive comments appear among the replies to Question 2:

An elevator manufacturer says: "We firmly and conscientiously believe that it is very seldom necessary to take a very extended volume of business below the normal costs. There may be times when one is in need of orders and their burden is excessively high, that they would be justified in accepting business at a lower figure in order to keep volume steady, or increase same, but generally speaking we believe by carefully scrutinizing your costs and watching the burden that it is very seldom necessary to go below a reasonable and normal cost."

A furniture manufacturer says: "Our opinion is that when a business reaches the point that it has to make its *profit out of its overhead,* it is in a precarious condition. This, of course, is predicated upon the assumption that the business has already kept its overhead to a minimum. In our opinion, it is much safer to maintain normal prices above a normal cost and do a restricted amount of business, than to attempt to absorb losses by increasing volume sufficient to squeeze a profit out of overhead."

I think if we were to interview the 500 odd companies who sent in *unqualified* No's in reply to Question 2, we would get a

good many comments along the lines of these last two—namely, that it is far better to restrict the scale of business operations to that volume and that class and those lines of business which can at the moment be sold at a profit, than to attempt to stave off the inevitable by seeking volume at a sacrifice of legitimate profits on the individual transactions, and with almost inevitably detrimental effects to the industry in general and equally inevitable probability of retaliation by competitors.

That covers a brief summary of some of the replies that we received to Questions 1 and 2. I have tried to make as impartial a presentation of the matter as I could, without allowing my own personal views, and the very strong convictions which I have on this subject, as a result of some twenty-five active years in the pursuit of my profession, to color my presentation. I have tried to present as impartially as I could, first, the views of those companies who believe that it is justifiable, right, necessary to sell below cost, and I have tried not to give undue emphasis to the opinions of the manufacturers who believe that it is unjustifiable and a poor business policy. I also tried to maintain that same attitude of impartiality in listing the replies to the other questions.

Now that we have seen what the general attitude toward this problem is as indicated by the replies to Questions 1 and 2, we can proceed to investigate the comments on the next three questions, numbers 3, 4 and 5, each of which deals with one of the most commonly advanced reasons in justification of selling the product of a factory at or below normal cost figures.

Question 3. Do you believe that the theory of incurring losses by taking business at or below normal cost with the idea of absorbing overhead is sound?

Taking up first Question 3: Let us look at the statistical returns on this question. We find that the 696 tabulated replies include 23, or 3%, who did not answer this question; 52, or 7%, who responded with a qualified YES; 81, or 12%, who gave an unqualified YES; 25, or 4%, who said No but qualified it; and 515, or 74%, of the total returns who answered the question with an unqualified No. This would seem to be a decidedly conclusive majority vote against the theory advanced in the question.

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	2	9	11	5	84
	100%	2%	8%	10%	4%	76%
Machinery, Tools, Hardware & Metal Products	157	2	7	14	10	124
	100%	1%	4%	9%	7%	79%
Textiles	70	3	11	8	3	45
	100%	4%	16%	11%	4%	65%
Clothing, Apparel & Accessories	50	4	1	9	2	34
	100%	8%	2%	18%	4%	68%
Wood & Wood Products	77	4	2	10	1	60
	100%	5%	3%	13%	1%	78%
Paper & Paper Products	47	2	5	3	..	37
	100%	4%	11%	6%	..	79%
Cereals, Food Products & Tobacco	37	2	6	6	1	22
	100%	5%	16%	16%	3%	60%
Mineral & Ceramic Products	40	1	2	3	..	34
	100%	3%	5%	7%	..	85%
Chemical & Allied Processing Industries	43	1	3	8	3	28
	100%	2%	7%	19%	7%	65%
Diversified Industries	64	2	6	9	..	47
	100%	3%	9%	14%	..	74%
Grand Total Returns	696	23	52	81	25	515
Percentages	100%	3%	7%	12%	4%	74%

Considering how often this theory is advanced as justification for selling-price policies which do not result in the return of a normal profit, it is rather illuminating to find that three-fourths of our correspondents are unqualifiedly opposed to the theory. This does not mean that we did not hear from those who take the contrary view. I have classified some of the comments on this question made by those who do believe in the theory. First, we might read some of the typical statements couched in more general terms and representative of the viewpoint with which we have all come in contact so often.

A steel office furniture manufacturer says: "Yes—partly."

A manufacturer of heavy machinery: "Under certain conditions, 'Yes.'"

A manufacturer of contractor's equipment: "Theoretically, 'No'—practically, 'Yes' sometimes."

A gear manufacturer: "Yes, to a limited extent. When you are absorbing certain overhead, you are not incurring a loss."

A manufacturer of springs: "We have answered that we believe that the theory of incurring losses by taking business below normal cost is sound, but we would not use the expression 'incur loss.' It is true one does not recover all his overhead, but he gains part as against none if he does not take the order. He only loses what he did not have but would like to have had."

A glue manufacturer says: "I do not believe it is a sound practice, but conditions compel it at times; the alternative being to reduce production and raise cost, thereby handicapping one's position as against other factories in the business which are able to operate at normal capacity."

A velvet manufacturer accepts the theory, but doesn't like it: "It may be beneficial to even take advance orders in between seasons below cost, not only to keep down the overhead, but also to avoid losing skilled labor, which cannot be readily replaced as it drifts into other work, ours being, as above mentioned, a highly specialized product. To sum up, it is reprehensible for anyone in our line to take advance order business, goods to be manufactured, without profit. It not only injures the manufacturer, but the whole trade. As to merchandise in stock, there are times when it is necessary for one reason or another to get rid of same at a sacrifice."

We now find that many of those who answered YES to Question 3, qualified their reply or put certain limitations upon their acceptance of the theory. I should say, in this connection, that one of the most frequent qualifications to the last six questions, 3, 4, 5, 6, 7 and 8, was made by answering YES, but crossing out the words "or below" in each of these questions. That is, we find a great many manufacturers drawing a fine line of distinction between the advantages seen in selling *at* normal cost and the disadvantages which they recognize in selling *below* normal cost. Many of the questionnaires were marked in such a way that Questions 3 to 8 inclusive were answered YES to the "at," and No to the "or below" part of the question. Here, again, we find our manufacturers assuming that it is possible actually to make this distinction in their business practice,—which involves, of course, the necessity of knowing absolutely and with utmost accuracy, just what their normal costs are on all lines of product.

Another qualification to the YES replies is that which specifies that the business accepted at or below normal cost shall constitute only a small portion of the total output.

We find a knitting mill saying: "We do believe that the theory of taking business at or below normal cost with the idea of absorbing overhead is sound, provided the ratio to the amount of business booked at a normal profit is small, so that the results obtained on the year's production would show a fair average profit. This is a matter of opinion and probably can be questioned."

A printing ink manufacturer says: "Yes. Normal burden presupposes normal volume. Increased volume decreases burden per unit. Therefore, it is sound to accept losses on a portion of the business to maintain profits or prevent losses on the remainder. If the refusal of business so decreases volume as to increase the burden per unit—the resulting loss might be greater than that incurred from acceptance of the business."

From a malleable castings foundry we get the suggestion of a special case: "We are unalterably opposed to taking business below normal cost with the idea of absorbing overhead except in such cases as it might be necessary or desirable in order to keep at least one unit of a plant in operation to afford and maintain service on your regular line of trade."

The next most frequent limitation put upon the affirmative response to Question .3 is that which specifies that the procedure shall be carried out only for a limited period of time.

A paper manufacturer says: "We believe this is sound, provided it is indulged in for a limited period and corrective measures are simultaneously being initiated in the industry."

A manufacturer of prepared food products: "Occasionally it seems to us good business to sell at normal cost with the idea of absorbing overhead, providing it is for a limited period only. We doubt if it can be justified as a permanent policy."

A worsted mill says: "Yes, for short periods 5 per cent below—save 1 per cent in cost against shut-down."

A chair manufacturer says: "Yes, but only to 25 per cent of total capacity."

Another important consideration in the minds of many who have felt that they should occasionally accept business at or below normal cost for the sake of absorbing overhead is how much the selling price falls below a complete normal cost.

A sporting goods manufacturer says: "We feel that taking business at but not below normal cost is perfectly sound and we practice this

policy to some extent. However, it seems to me that it is simply a matter of choice whether you take your loss directly on the sale of goods or through the unearned burden in the factory."

A manufacturer of automotive accessories and wire products says: "We are of the opinion that Questions 1, 2, and 3 can be answered in the affirmative for the following reasons: Burden consists of two factors, one being fixed, the other being variable. We do not favor taking business when variable burden must be sacrificed but feel that business can be taken at or below normal cost with the idea of absorbing fixed burden as much as possible because such fixed burden is present whether business is taken or not."

Several correspondents in their letters set forth their belief that the absorption, or perhaps a reduction of overhead, was a justifiable motive for accepting business at or below normal cost, providing it not merely furnished them with a normal volume but actually produced an *excess* over normal volume of business.

A range and furnace manufacturer says: "Yes, for excess production only."

From a manufacturer of fibreboard and fibre containers we get the following comment: "Yes, providing it is highly desirable from a manufacturing and production standpoint and furnishes business at *regular intervals,* materially aiding in maintaining 100 per cent operating schedule."

Other manufacturers in their letters made the point that the business accepted for the sake of merely carrying burden, must be the type of business on which the manufacturer can count as a regular source of fill-in business.

The ruthless note was not entirely missing on the affirmative comments on Question 3.

An underwear mill says: "Yes, on initial orders."

Perhaps this is not quite as ruthless as it sounds if the gentleman had reference to the probability that costs of subsequent orders and subsequent runs would be reduced as a result of the experience in handling an initial order. If this was in his mind, then his conception of normal cost is not quite what we hold, since normal cost would not take into account excessive costs involved in handling an initial order.

Now, that we have considered some of the mitigations and apologies which have been presented for the policy of burden absorption, we have a few pertinent comments from those who take

the other side of Question 3. First there is a broad viewpoint which looks ahead to the effect on the industry as a whole and considers the probability that such a policy will provoke retaliation.

A tank and boiler factory says: "We *never* intentionally take business at cost; however, we must admit that sometimes we have to *accept* prices that we know are entirely too low, but simply because we do not have sufficient work for our employees. For a long time past in *our* business it has been impossible to operate *anywhere near 100 per cent.* We do not attempt to do so, simply because we *know* that if we follow that policy, our competitors cannot be securing a reasonable amount of business and will only result in still lower prices."

A malleable iron foundry says: "When business is taken below cost with the theory of getting a part of the overhead, the other fellow's overhead has been increased; consequently the benefits have shifted from one to the other without any benefit to the industry as a whole, putting business on a very unsound basis."

A good many correspondents have reached the conclusion, however, from their own experience or from observation of others, that the attempt to make a gain or reduce a loss merely by absorbing overhead too often fails.

A manufacturer of special machinery says: "We have had recently a very good example of the effect of taking business below normal costs, and we believe it might have been of advantage to us had we not taken too much of it. We found that it was impossible to absorb enough overhead to work to our advantage and that we could not increase our buying power to the point where it would offset the financial loss."

A steel casting company reports: "We know of one competitor who ran over 100 per cent last year, thereby getting more than his share, and then found a loss of $85,000. He also helped to pull down the average sales price much lower than it should be, making it very difficult to bring it back."

From those who simply feel in general terms that the whole policy is economically unsound, we have:

A manufacturer of hoisting machinery: "No, it can hardly be called sound, but sometimes in extreme conditions it might be justifiable."

A farm implement manufacturer: "Theoretically somewhat, but practically unsound."

A manufacturer of vacuum pumps says: "The theory of incurring losses on an entire line by taking business at or below normal cost with the idea of absorbing overhead is not sound practice."

A manufacturer of heavy machinery, tersely: "I do not believe in incurring losses."

I like the constructive comment of the following manufacturer of road-paving equipment: "No. If one incurs losses due to such a procedure, what do such losses represent? As we see it, nothing more or less than unabsorbed overhead. It is true that a partial absorption of overhead is gained by this procedure but even a small volume of business at a reasonable profit would do as much without endangering price levels in any way."

When a manufacturer has pursued the overhead absorption theory for a time, when he has loaded up his production facilities with business at or below normal cost, but inclusive of some or all of his fixed overhead, isn't the inevitable effect going to be a slackening off of sales effort and the practical certainty that he will fail to go after or fail to secure some of the really profitable orders which he might otherwise be working on?

I had no idea that out of these 700 very representative concerns, practically 75% would say they did not believe in the overhead absorption theory, although I will go far enough to say right now that I think the theory is absolutely dead wrong. I have met it so often in my practice and in going around the country and talking to manufacturers, that to find 75% who would come out flat-footedly and say, "No, the theory is wrong," was very surprising and, to me, personally, exceedingly gratifying. Of course, we heard from a lot of men who expressed the contrary view, and I have given you their comments.

Let us proceed now to consider the responses to Question 4, which presents the second of two most common motives for accepting business at or below normal cost.

Question 4. Do you believe that the financial loss incurred in keeping your organization intact by taking business at or below normal cost benefits you in the long run?

When we look at the statistical results we find a little higher proportion of our correspondents who find some excuse to justify an affirmative answer or at least a qualified No. Of the 696 returns, 31, or 4%, did not reply to this question; 65, or 9%, replied YES with qualifications; 101, or 15%, said YES; 18, or 3%, qualified their No; 469, or 69%, give an unqualified No as their reply. While this is not quite so large a majority in the negative as we find on Question 3, nevertheless it includes well over two-thirds of those

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	3	8	12	6	82
	100%	3%	7%	11%	5%	74%
Machinery, Tools, Hardware & Metal Products	157	6	12	21	5	113
	100%	4%	8%	13%	3%	72%
Textiles	70	5	13	10	..	42
	100%	7%	19%	14%	..	60%
Clothing, Apparel & Accessories	50	3	3	10	1	33
	100%	6%	6%	20%	2%	66%
Wood & Wood Products	77	5	6	12	2	52
	100%	7%	8%	15%	3%	67%
Paper & Paper Products	47	2	2	6	2	35
	100%	4%	4%	13%	4%	75%
Cereals, Food Products & Tobacco	37	2	8	6	..	21
	100%	5%	22%	16%	..	57%
Mineral & Ceramic Products	40	2	4	4	..	30
	100%	5%	10%	10%	..	75%
Chemical & Allied Processing Industries	43	1	3	8	1	30
	100%	2%	7%	19%	2%	70%
Diversified Industries	64	2	6	12	1	43
	100%	3%	9%	19%	2%	67%
Grand Total Returns	696	31	65	101	18	481
Percentages	100%	4%	9%	15%	3%	69%

who checked their questionnaires or otherwise replied to the question.

As I have done on the other questions, I am going to give those who replied Yes a fair hearing. First we have the manufacturers who emphasize the value of their organization as a business asset, and the costliness of trying to build one up after it has been dispersed. These thoughts are not new to any of us and have probably received consideration at one time or another from every manufacturer. Note that most of the comments put limitations upon their acceptance of the principle.

A trunk manufacturer: "Yes. We believe our organization, next after profits, the most important thing in our business."

A ballbearing manufacturer: "Yes, if skilled productive laborers are in danger of leaving you."

A printing ink manufacturer: "Yes. Unless your business only requires unskilled or untrained personnel. The organization is what produces profits in excess of ordinary interest. Normal operation should provide sufficient profit to assure reserves for these losses."

A metal products company: "Yes—because it costs a large amount of money to build up and maintain an efficient organization and changes in an organization are a very expensive proposition."

A manufacturer of electrical products: "Ordinarily yes. Provided the losses are not too severe. If business get slack, competition keen, it is the writer's opinion that it is better to lose a little on sales than to lose a lot by disrupting your organization. Even this, however, has its limitations."

A machinery manufacturer says: "We subscribe to this view to a limited extent, but in general hew firmly to the policy of adjusting the size of our organization and the amount of our overhead to the current volume of business, based on a minimum or basic organization which should not be disturbed."

Another machinery manufacturer: "The same answer as Question 3, 'Yes,' but it depends largely upon the type of organization and the difficulty of replacing such an organization, also the time element and the relative costs of replacing the organization as compared to cost of taking business below normal cost."

A manufacturer of folding boxes does not accept the phrasing of the question quite as it stands: "While this has been answered in No. 1, I will amplify the answer. If you will substitute the word 'benefit' for the words, 'financial loss,' I will unhesitatingly answer 'Yes' and further say that this view has been confirmed not by any theories but by actually operating the business both ways. The reason being that absence of business is a certain and definite loss whereas temporary business at cost is neither book loss nor gain, but actually a permanent benefit."

A veneering manufacturer comments as follows: "The answer to this question depends entirely upon the ratio of financial loss incurred as against the cost of reorganization of a business that has become disorganized and where the keymen and skilled operatives have taken employment in other directions. Anyone familiar with the fact in industry must admit that a constant turnover of labor in any business is highly expensive and most uneconomic, and it is the ratio between such turnover and such financial loss as might be incurred by keeping the organization intact through the booking of business below normal cost, that is the answer to this question."

Some manufacturers located in small communities and whose establishments are the source of livelihood of a good proportion of the community, feel a deeper sense of responsibility for furnish-

ing continual employment than is likely to be found among manufacturers in larger centers.

A carpet manufacturer located in a small Eastern town says: "When the entire community is dependent upon a mill it may be advisable to take business at below normal cost to keep the organization intact."

Again we have the comments of those manufacturers who qualify their affirmative answer to Question 4 by specifying that the policy is sound if it is only to be followed for a limited period of time.

A gear manufacturer says: "Length of time involved should be considered."

A crane manufacturer says: "Yes—if it does not involve too long a time."

A gear company: "Yes—there have been a couple of lean years when it was of benefit to do so."

A shirt manufacturer: "This is a very difficult question to answer. To an extent it depends on what is meant by 'in the long run.' An organization is of as much value to a business as any of its other assets; and we would be willing to operate at a loss for a reasonable time to keep our organization intact."

A canning company: "If taking business at a loss and thereby holding together an organization is not extended over too long a period, we believe we can justify it, moreover, if it has a tendency to unearth inefficiency in manufacture and organization which may be eliminated, it partly justifies the procedure."

A knitting company says: "We do believe that financial loss incurred in keeping an organization intact does benefit an organization, providing the volume of business taken does not too greatly impair one's capital, and also that the prospects of a normal condition when prices can be obtained that will show a reasonable profit are in sight. This is a matter of opinion and questioning."

A paper manufacturer: "We believe this is sound, provided it is indulged in for a limited period and corrective measures are simultaneously being initiated in the industry."

A special consideration, namely, maintenance of quality of product animates the following response from a manufacturer of wire products: "We believe that an organization should be kept intact, especially if it is well trained, as a change is apt to reflect in quality of manufacture and will lessen the range of distribution. We feel an organization should not be broken unless it is impossible to regain the former position in the trade."

On the negative side of Question 4, I am very glad to be able to quote some rather positive and also some constructive comments:

An iron founder says: "No—with no exceptions whatever."

A manufacturer of fibre containers: "Not if any appreciable percentage must be taken at below normal cost."

A number of companies see the distinct advantage in meeting the situation of reduced volume boldly and prefer to make whatever adjustments are necessary for the size of their organization to conform to the volume of business available.

A glue manufacturer says: "No. Organizations should be reduced and increased parallel with trade activity."

A pump company: "As in the answers to the first two questions, if the condition were a temporary one a certain financial loss incurred by taking business at or below normal cost would be offset by having the organization ready to do business at the time it again picked up. If, however, this condition were to continue for a long period of time, as implied by the question, it would be much better to reduce the overhead by keeping just the keymen in the organization, and not incurring a financial loss."

A manufacturer of automotive accessories says: "The above ideas are advanced only on condition that the situation with regard to taking business at or below normal cost is temporary. However, if competition develops too strongly and indicates replacing you in the trade, then we believe an organization should be cut as quickly as possible and a company liquidated rather than rolling up losses by fighting a losing battle."

Another malleable castings foundry: "In regard to Question 4, there is little or no actual benefit in keeping organizations intact upon a low operating basis. In fact, believe it to be a detriment to the business as the morale of the foremen and the men is greatly impaired and when there is an upward trend and operations are brought up to or above normal, it is sometimes necessary to replace a foreman, and even the better workmen, due to the lack of 'pep' in order to equal previous records of performances. As a matter of fact, if during a period of dullness wages are reduced even slightly or not at all, with the increase in business comes a demand for increase in wages. Therefore, from our experience we feel that the force of workmen should be trimmed to coordinate on an efficient basis with the value of output."

Frankly, I myself believe that if more manufacturers would face the issue of reduced volume in this fashion, make up their minds that they are justified in keeping on the payroll only such part of their organization as is actually necessary to handle current vol-

ume, they would be in most cases ahead of the game. Offsetting the cost of labor turnover, even the loss of supposedly valuable key-men, we must consider that every organization tends to become filled up with dead wood, individuals who retain their positions largely through length of service, favoritism and paternalism or what-not, and who themselves would probably be better off if dumped overboard and forced to seek employment where they are more needed. Occasional reduction in payroll and pruning of the executive organization to meet the situation of reduced volume offers just the opportunity which many a manufacturer needs for getting rid of some of his dead wood.

Another alternative to the costly retention of a full working force on full time is offered by

A manufacturer of pumps who says: "We believe it is better, when business is poor to keep your organization by closing down a day or two each week in order to meet existing conditions rather than to lay off employees indefinitely which would mean they would look for jobs elsewhere and when business got normal, you would not be able to secure their services."

Here, again, is an alternative which, I think, carries a great deal of weight. We already have in this country several industries which have cooperated within their own fields for the adoption of a five- or even a four-day working week with a view to offsetting a recognized condition of over-equipment which had led to destructive competition and altogether unprofitable price cutting.

Taking up Question 5, I should like to say, first, that this question was not phrased quite as clearly as it should have been. What we intended to convey, of course, was a possible advantage to the manufacturer himself in retaining his own normal buying power or ability to give his vendors their normal volume of purchases and thereby retain such advantage as he might have by virtue of his own buying power. There are some very large industries in which I believe this is a factor to be considered. We have all seen how a manufacturer dominating his field, as does the Ford Motor Company, can exert a tremendous pressure upon his sources of raw materials, supplies and accessories, giving him a very appreciable advantage in price over any competitive bidder. When an organization has reached this position of dominance on the buying end and then for any reason finds it necessary to curtail its operations heavily, it is probable that the organization loses some of its buy-

ing power and that it will not be able to retain its price advantage in some quarters at least.

Frankly, I do not think that the average-sized manufacturer suffers any loss of price advantage through the ordinary ups and downs of his business. At least it is probable that such slight differences as might result from fluctuations of his own volume would not constitute an especially strong motive for accepting business at or below normal cost in order to keep his volume up to normal.

When we came to read the comments and replies to Question 5, we found that a great many of the correspondents misunderstood this question. Some of them thought we had reference to increased buying power of the manufacturer's customers—in other words, the possibility of reaching into wider markets through price reductions. This was not the intent of the question, however.

Question 5. Do you believe that in the long run the gain from greater buying power sufficiently offsets the financial losses incurred by taking business at or below normal cost?

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	4	1	4	4	98
	100%	4%	1%	3%	3%	89%
Machinery, Tools, Hardware & Metal Products	157	8	1	4	5	139
	100%	5%	1%	2%	3%	89%
Textiles	70	8	..	6	..	56
	100%	11%	..	9%	..	80%
Clothing, Apparel & Accessories	50	3	..	1	..	46
	100%	6%	..	2%	..	92%
Wood & Wood Products	77	5	..	3	..	69
	100%	7%	..	4%	..	89%
Paper & Paper Products	47	1	1	1	..	44
	100%	2%	2%	2%	..	94%
Cereals, Food Products & Tobacco	37	3	2	2	..	30
	100%	8%	6%	6%	..	80%
Mineral & Ceramic Products	40	3	..	4	..	33
	100%	7%	..	10%	..	83%
Chemical & Allied Processing Industries	43	2	3	3	..	35
	100%	5%	7%	7%	..	81%
Diversified Industries	64	5	3	3	..	53
	100%	8%	5%	5%	..	82%
Grand Total Returns	696	42	11	31	9	603
Percentages	100%	6%	2%	4%	1%	87%

Looking at the statistical results on Question 5, we find that 87% of those who replied give an unqualified No, a rather high percentage; 6% did not reply to the question; 2% gave an unqualified YES in reply; 4% said YES without qualification; 1% qualified their No.

It is entirely evident that this factor is not an important one in the minds of most business men who are impelled to consider taking orders at or below normal cost, and this seems to be the opinion brought out by the statistical tabulation, for we find 87% who give an unqualified No to this question. We will pass over the comments on it.

Questions 6 and 7 deal frankly with those broader considerations outside of the effect on the manufacturer's own business, and which must and do receive some thought on the part of almost every manufacturer who realizes that what he does is in some measure representative of what his industry, as a whole, will do, and what he does must in some measure and in some way affect conditions in his entire field.

Question 6 alone puts the simple question as to whether the manufacturer does accept the premise that his own policy, if it involves selling at or below normal cost does effect his industry. It reads:

Question 6. Do you believe that you can take business at or below normal cost without affecting adversely the industry of which you are a part?

On this question we find the most overwhelming consensus of opinion in the negative. 85% of the 696 returns were unqualified No's; 3% did not reply to the question; 3% replied YES with qualifications; 6% simply said YES; 3% said No, but with qualifications. It would appear that the adverse effects of the individual manufacturer's policy in this direction upon his industry are almost universally recognized.

As usual, however, we find among those who replied YES, various justifications for their position. I will quote a few:

A steel equipment company says: "By reason of fact that the taking of certain classes of work in our particular industry broadens the field."

A spring company says: "We believe we can occasionally take business below normal cost without affecting adversely the industry. Nat-

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	1	5	10	2	93
	100%	1%	4%	9%	2%	84%
Machinery, Tools, Hardware & Metal Products	157	2	1	8	6	140
	100%	1%	1%	5%	4%	89%
Textiles	70	4	3	5	1	57
	100%	6%	4%	7%	1%	82%
Clothing, Apparel & Accessories	50	3	2	3	..	42
	100%	6%	4%	6%	..	84%
Wood & Wood Products	77	2	2	2	1	70
	100%	3%	3%	3%	1%	90%
Paper & Paper Products	47	3	3	1	1	39
	100%	7%	7%	2%	2%	82%
Cereals, Food Products & Tobacco	37	2	2	1	3	29
	100%	5%	5%	3%	8%	79%
Mineral & Ceramic Products	40	1	2	2	..	35
	100%	3%	5%	5%	..	87%
Chemical & Allied Processing Industries	43	2	..	4	2	35
	100%	5%	..	9%	5%	81%
Diversified Industries	64	1	2	7	1	53
	100%	1%	3%	11%	2%	83%
Grand Total Returns	696	21	22	43	17	593
Percentages	100%	3%	3%	6%	3%	85%

urally, we only do it when our competitors are under-bidding us. If we should refuse the orders, they would simply go to our competitors and the industry would receive the same amount of business as if we shared it. Still, if we did not share it, this additional business thrown upon our competitors might enable them to make a still lower price, or our refusal to take it might strengthen their efforts to obtain a higher price. We are not quite sure how that would work."

A manufacturer of heavy machinery says: "If your question implies as a general practice, the answer 'No' needs little qualification, but the occasional taking of business at or below normal cost, for the specific purpose of advertising or special sales propaganda—for instance, as an entering wedge—should not affect the industry adversely. Furthermore, a new manufacturer entering the field, or an old manufacturer placing an article new to him in the field, or a manufacturer trying out a new method might wisely sell considerably below normal cost in order to obtain the true facts as to manufacturing costs, the condition of the field and the adaptability of his article to the needs of the trade."

A paper manufacturer says: "We believe that this practice, if followed for a long enough time, adversely affects the industry. Our attitude would be to accept the situation temporarily while investigating whether it could be corrected by any cooperative means and, if not, while we were preparing to enter some new field to offset the loss of tonnage involved."

A textile manufacturer says: "Our output is fairly high-priced fancy material, very seasonal, and of such character that manufacturing for stock is out of the question, material being sold on order only. At various times when demand is low, we can spread our output into other classes of garments and into special sale garments, but selling at a low price. This low or special price is carried right through the trade to the counters of the retail store, and we believe the sales stimulation, due to price, prevents this practice to some extent interfering with regular trade. In most cases this question is a matter of trade practice developed through a long period of time and impossible to eliminate without strong trade organization."

A printing ink manufacturer says: "In times of general business depression when consumption of product is curtailed, the extent of this curtailment may be lessened by reduced selling prices. If reduced prices will increase consumption, then they can conceivably maintain consumption in the face of decreased buying power. Therefore, reducing prices below normal cost for this purpose, should not affect the industry adversely."

A belting manufacturer says: "There are some firms in most every industry which are taking business at or below normal costs and we do not believe that it will materially affect their industry as a whole if another firm takes business at or below normal cost in a time of emergency. If it is with the idea of driving a competitor to the wall or with the idea of stimulating business, we think it will adversely affect the industry."

Having given a brief hearing to the small minority on the affirmative side, I want to quote the emphatic comments of some of those companies who made up the 85% majority voting No.

A rubber company comments: "It is our fixed opinion that selling below normal cost is in the long run calculated to disturb selling conditions so as to prolong materially the restoration to normal conditions. Retaliation in kind is usually the reply to price cutting. Normal demand cannot be forced to increase under adverse general business conditions. If sellers would realize the unfairness of price cutting to or below normal cost, and if those whose business is thus attacked would make known the intention to meet such cut prices, those initiating this policy might eventually come to realize its futility. One of the most necessary things today is for industry to recognize the periodical increase and recession of business and to be satisfied with continuing to retain its normal share. The

price cutter is merely giving expression to a despicable form of human greed, something which cannot be eventually successful. If the price cutter were pilloried before the trade as the instrument through which not only the manufacturer, but the distributor and the retailer must suffer loss of profit, we believe a strong feeling of antipathy might be aroused against this method of doing business."

An equipment manufacturer: "Emphatically, No. When any one concern in an industry starts such a procedure it needs must follow that all must adopt the same plan in order to keep their customers. New price levels are established; decreased or eliminated profits result; a spirit of 'get the business at any cost,' is fostered; and a concerted effort by other competitive concerns to crush the one starting such a course will probably be made. In addition, a spirit of antagonism for, instead of a spirit of healthy competition with, such a competitor grows and overshadows past friendly relations. Such a concern becomes an outcast, a pariah, and it will take years of effort on its part to bring itself back to its past position in industry."

A farm implement manufacturer: "Price cutting is the degradation of buying, and the burying of sound business."

A furniture company says: "Some of our manufacturers have taken business during the last few months at or below normal cost, and it has very much adversely affected the industry."

A knitting company says: "We do not believe that business can be taken at or below normal cost without affecting adversely the industry of which one is a part, for the reason that all those engaged in the industry might take the same view and in such case we would find a condition which has existed for the past few years. This condition, I think, is deplorable, as there are a great many of the older and stronger concerns liquidating their business, as they are unable to get a satisfactory return from their investments and are unable to continue this bad policy of running a business at a loss. I think it is up to those engaged in any industry to get together and have frank discussions of conditions in their industry and try to correct them in a business-like way, with a proper code of ethics in mind. They are all engaged in business for profit."

A lace paper company makes an exception: "Unless of course our own production is inefficient."

A food products company says: "No. Unless it is some business where consumption can be increased by lower prices."

A pump manufacturer says: "Economically, I do not believe that a concern can help but affect adversely the industry of which they are a part if they take more than their normal share of business at or below normal cost."

A manufacturer of railway cars says: "It has been our experience in our business that when orders have been taken by car builders at or below normal cost, it has seriously affected the industry."

Having dealt with the general question of the effect of individual policy upon the industry, we now find Question 7 presenting the ethical issue directly.

Question 7. Do you consider it fair to other concerns in the same industry to take business at or below normal cost?

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	2	3	8	9	89
	100%	2%	3%	7%	8%	80%
Machinery, Tools, Hardware & Metal Products	157	7	4	7	6	133
	100%	4%	2%	5%	4%	85%
Textiles	70	7	4	9	2	48
	100%	10%	6%	13%	3%	68%
Clothing, Apparel & Accessories	50	5	3	3	..	39
	100%	10%	6%	6%	..	78%
Wood & Wood Products	77	2	2	6	1	66
	100%	3%	3%	8%	1%	85%
Paper & Paper Products	47	6	1	4	2	34
	100%	13%	2%	9%	4%	72%
Cereals, Food Products & Tobacco	37	2	3	4	1	27
	100%	5%	8%	11%	3%	73%
Mineral & Ceramic Products	40	2	1	6	1	30
	100%	5%	3%	15%	2%	75%
Chemical & Allied Processing Industries	43	4	3	5	1	30
	100%	9%	7%	12%	2%	70%
Diversified Industries	64	2	4	8	1	49
	100%	3%	6%	13%	2%	76%
Grand Total Returns	696	39	28	60	24	545
Percentages	100%	6%	4%	9%	3%	78%

When we look at the tabulated returns, we find 78% replying No without qualifications; 6% make no reply; 4% say Yes with reservations; 9% vote Yes; 3% say No, but qualified their comment. Again we have in 78% of unqualified No's a dominating majority of the 696 returns tabulated. True it is not quite so

large as the 85% of No's which we got on Question 6. The difference amounting to 7% just about reflects the percentage of correspondents who seem to feel that while their acts may adversely affect their industries, the question of ethics or fairness is not an issue. This is brought out in the comments made by those who replied YES to Question 7.

First, let us hear from those who do not feel that the question of ethics or the fairness or unfairness of the policy is an issue in ordinary business practice. It will not be news to any of you to find that a certain number of manufacturers take this position. The fact that they do, is one of the problems which industry must ultimately face, and a problem which is already receiving serious thought by those who take the opposite viewpoint, namely, that theirs is a responsibility not only for the individual success of their own enterprise, their own investment, their own stockholders, and their own employees, but that they owe a responsibility to the craft or trade, or industry of which they are a unit. Nevertheless we still have with us those who take the extreme individualistic viewpoint.

Secretary-manager of one business says: "All is fair in love and war. Altruism does not figure when prices are at 'normal cost.'"

Another manufacturer says: "Don't consider this factor of much importance."

A paper mill comments: "This question is hardly fair as it assumes that the effect on a competitor should be the decisive element. I do not so conceive it; the real question is, Shall the community stop the play of economic forces to help a competitor? Here is the way the question should be formed: Should a company give competitive forces free play, even though it injures a competitor? The answer is yes."

A manufacturer of fabrics says: "We think it is perfectly fair to do anything to protect one's own business and to help it to live, even though it may hurt other firms in the same line."

A piano manufacturer says: "Yes. You can go too far working for benefit of competition, especially if it busts you."

A manufacturer of varnishes says: "Naturally, the taking of such business on a less than ordinary or reasonable margin of profit with overhead included will have a temporarily disadvantageous effect upon the competitors, but these are slightly changing currents in business for which every competitor must be prepared."

A manufacturer of automobile accessories says: "We have answered Question 7 in the affirmative and believe that the element of fairness

does not enter into it but rather the question of serving the trade is the important part of maintaining Leadership in the Industry."

A silk mill comments: "The answers to 6, 7, and 8 may be combined by saying that the theory of business at the present time is competitive. While business can be carried on without the so-called 'cut-throat' competition and still have it on a competitive basis, we believe that taking business at normal selling cost without profit for certain lines is an advantage in decreasing the overhead charge. The fact that any concern happens to be in one line of industry is not because they are trying to help that particular industry, but because they are trying to make a living and the particular action of that concern with regard to the industry as a whole is not always governed by altruistic motives."

A shoe manufacturer seems to think that discretion is the better part of valor: "We would consider it fair, but unwise."

I am going to be a little liberal in my quotations on the affirmative side of this question. It will not do any of us any harm to have a clear picture of the other fellow's viewpoint, especially when it is a viewpoint that is held by those whose policy many of us feel is largely responsible for competitive conditions as they exist today. The next group of quotations comes from those who justify their policy on the grounds that "the other fellow does it too."

A varnish manufacturer says: "Yes. If done as a matter of reprisal."

A trunk manufacturer says: "Yes, because we believe the other concerns are doing the same thing."

A paper company says: "It is difficult to state whether this is fair or unfair as it usually develops that the majority of concerns in the same industry are 'tarred with the same brush.'"

Another paper company: "Yes, they may fix the price."

A machine manufacturer says: "Yes—what they do or we think they do we must do and vice versa."

A food products manufacturer: "We would say it is fair to other concerns to take business at or below cost only to retaliate for a similar practice on their part."

A manufacturer of precision instruments says: "Had we been able to answer 'No' on the first six questions, we would have answered 'No' on the seventh and eighth. The question of fairness to other concerns depends mainly on the reason why it is found necessary to sell below a normal cost."

An ink manufacturer says: "Yes, because when conditions would warrant our doing this, they would be such that the competitor would be willing to do the same."

A manufacturer of hydraulic equipment comments: "All of your questions have been answered in the negative except numbers one and seven. Number seven because under existing conditions and the way your question is put, we do believe it is fair to those other concerns in the industry who do such under-bidding, although not fair to ourselves. The balance of your questions have been answered in the negative from a standpoint of economic reasons, and with the assumption that the 'other fellow' will have the same attitude which, however, is not always the case."

May a manufacturer absolve himself for the effect of his policy on his industry on the grounds that his operations are not extensive, that he is too small a factor to count, or that his price policy does not establish that of the industry?

A stamping company says in this connection: "We are not answering Question 7 because we do not feel that this is a fair question. The Aluminum Company of America or the United States Steel Corporation are the predominating companies in their industries so that they have a moral obligation to consider the effect that their actions might have on other companies in the same industry or on the public as a whole, but the writer believes that this does not apply to a small company like ours and the prime thing for us to consider is the success of our own company."

Is the question of fairness to competitors to be disregarded when it seems advisable to eliminate certain elements from the field of competition?

A firm of electrical engineers and contractors says: "Going below normal costs to prevent fly-by-nights from breaking in is a sacrifice hit which is of benefit to the legitimate industry."

A webbing manufacturer says: "Yes and no. It disturbs the price structure. But by fighting out the small price cutters, it ultimately is of benefit to the industry."

From a manufacturer of contracting equipment, we have this comment: "If it becomes a question of taking business below cost continually, there are too many in the business and the weaker ones will have to get out and devote their time to something else."

Now that we have heard the case for the defendant, let us see what the prosecution has to offer.

A pottery company says: "No. Unfair to all even yourself."

A glue manufacturer says: "It is not fair if your standard is co-operation for the good of the industry. Unfortunately, this is not the high level on which most business is transacted."

A stove company says: "No—would only do it in defense."

A manufacturer of elastic fabrics says: "Business is frequently taken through fear, mistrust and suspicion amongst competitors, also pressure and propaganda (oftentimes not true) on the part of the buyer in pounding for lower prices."

A metal products company comments as follows: "This is purely a question of ethics. I find, however, very little regard for ethics in business today and when one or two concerns in an industry violate all business ethics and are more or less unscrupulous in their methods of securing business, then the other concerns in the same industry are forced to take measures which they do not believe in, in order to hold their trade and their position in the industry. I can see no way of avoiding this in the light of the present federal laws which do not permit of any price control."

Among the 200 odd letters which we received in response to this survey, there are a great many more comments on the ethics presented in Question 7. That it is an ethical problem and that it is an issue which every manufacturer in a competitive field must sooner or later face honestly, is my firm belief. The manufacturer who does not recognize his responsibility for doing his part in maintaining decent, and if possible profitable competitive conditions in industry, will I believe, suffer a form of natural retribution. If this punishment does not come today it will be held in store for tomorrow. It is very evident from many comments I have read to you throughout this paper, that manufacturers generally may frown upon the policy of selling at or below cost on theoretical grounds, but a majority of them believe it better to follow this policy as a defensive measure than to allow unscrupulous competition to succeed in its inroads. Not all of them believe in retaliation, it is true, but I think we can be assured that every manufacturer has a certain number of customers and a certain volume of business which he has built up through sound and constructive merchandising which he is entitled to protect from the onslaught of the competitor whose only weapon is "price." This temper of self-defense is too pronounced today to make the "at and below cost" pirate a good prospect for business success.

I think it is a very wonderful thing, gentlemen, that out of these 700 representative concerns we find 78% who realize and be-

lieve that business has an ethical side, and that there is a question of fairness or unfairness in what one does to one's competitors. I venture to say if that question had been presented to American business; I won't go any further back than twenty-five years ago; there wouldn't have been more than 15 or 20% that would have taken the stand that 78% of these representative manufacturers now take. I think if there is any one thing that has happened in this country in the last twenty-five years, it is the complete change in the moral attitude of the business men of this country, and it has been brought about, in my opinion, primarily by our trade organizations and by the great service clubs of this country of which so many of you men are members.

Question 8. Do you believe that any industry as a whole in its competition with other industries should *ever* take business at or below normal cost?

Summary by Groups of Industries:	Total Returns	No Reply	Qualified Yes	Yes	Qualified No	No
Iron & Steel and Iron & Steel Products	111	5	5	3	7	91
	100%	5%	4%	3%	6%	82%
Machinery, Tools, Hardware & Metal Products	157	12	10	10	7	118
	100%	8%	6%	6%	5%	75%
Textiles	70	7	9	7	2	45
	100%	10%	13%	10%	3%	64%
Clothing, Apparel & Accessories	50	4	4	6	1	35
	100%	8%	8%	12%	2%	70%
Wood & Wood Products	77	7	4	7	1	58
	100%	9%	5%	9%	1%	76%
Paper & Paper Products	47	5	..	6	3	33
	100%	11%	..	13%	6%	70%
Cereals, Food Products & Tobacco.	37	3	3	6	2	23
	100%	8%	8%	16%	5%	63%
Mineral & Ceramic Products	40	3	3	6	..	28
	100%	8%	7%	15%	..	70%
Chemical & Allied Processing Industries	43	5	1	7	2	28
	100%	12%	2%	16%	5%	65%
Diversified Industries	64	7	10	6	1	40
	100%	11%	16%	8%	2%	63%
Grand Total Returns	696	58	49	64	26	499
Percentages	100%	8%	7%	9%	4%	72%

Taking up finally our Question 8, we find, significantly I think, the largest percentage yet of those who make no reply to this particular question. Of the returns, 8% ignore Question 8. A considerable number commented in their letters on their failure to understand what we were driving at.

Of course, the intent of Question 8 was to present another motive which under certain conditions might lead an industry as a whole to seek to keep its product in the field, or to introduce its product to the public, at or below normal cost. This of course is what has come to be known as the "new competition" between industries, a thing that has not yet received the broad recognition and general understanding which it should, and which I think will rapidly come about.

The rapid expansion of our production facilities in this country and the constant introduction of new products have brought about an actual competition between industries manufacturing utterly unrelated lines to see which can secure the largest share of the consumer's dollar. Numerous examples of this wide-scale competition for outlets will occur to each of you.

The woolen clothing industry has reached the conclusion that consumption of clothing has been curtailed by the heavy expenditures being made by the average consumer for other necessities or luxuries. The average citizen is spending a great deal more today for rent than he did before the war. A great many more automobiles are being purchased, worn out, and replaced than was the case ten years ago. Entirely new products have entered into this competition for the American income.

In about five years the manufacturers of radio receiving equipment built up a business estimated at nearly one billion dollars annually. This expansion of a single industry was at a rate greatly in excess of the normal increase in average income. The money spent in this direction must have been withdrawn from other channels of circulation. Probably the shoe manufacturer and the grocer suffered indirectly, just as did the manufacturer of musical instruments, talking machines, and similar luxuries in a more direct way.

It is evident, however, from the specific comments made on this question that this so-called new competition is not yet universally recognized as a factor in the problems of American industry. Quite a few of our correspondents frankly said they did not see

how their particular product could come into competition with that of an entirely different line. A number gave the question a much narrower interpretation and commented on the difficulties encountered in the competition from unrelated industries whose normal product is entirely different, but who are equipped to make their own line of goods and who proceed to do so as a means of making up deficiencies in volume.

Let me give a few of the more pertinent comments on Question 8. From those who answered YES and who see justification for selling, at, or below cost in competition with other industries, we have:

A shirt manufacturer who says: "The recent competition between the manufacturers of phonographs and radios probably put the former in a position where it was necessary to decide between discontinuing business and selling their product at a loss. Competition with the radio was no doubt instrumental in developing the Panatrope and the Orthophonic Victrola and we believe that in a rare instance of this kind the industry was justified in temporarily continuing operation at a loss, pending the readjustments made necessary through the sudden inroads made by radio competition."

A specialty belting company says: "Yes. For introduction purposes."

A plaster manufacturer says: "Perhaps as an introductory proposition it might be excusable."

A milling company says: "Sometimes it is quite necessary: as an illustration, a new industry which would be of very considerable benefit to the public at large might never get started properly unless it takes business below normal cost in competition with another industry to establish its products."

Another manufacturer says: "Yes, possibly. If whole situation has been carefully studied."

A gear company: "Yes, if one industry can take business from another, then the latter was not the economical producer and should lose it."

An ink manufacturer: "Any circumstance or condition that would warrant an individual taking business on this basis, would apply to the industry as a whole."

A rubber company: "Yes. Theoretically no, practically yes. The millennium has not arrived."

A manufacturer of plywood: "I believe there are times in every business when there should be a clean-up. We think we are going along fine, holding up to an old-established price and finally wake up to the

fact that some other commodity has got up to date and is being manufactured at a much lower cost. When that readjustment comes, I think the old stock should be sold at the new cost even though it be less than what it originally cost to produce it."

Another manufacturer: "Yes, only if it becomes a struggle for survivorship."

A malleable iron foundry says: "With the present condition of the malleable iron industry, it would be a good policy to take business at normal cost in order to retain your customers, and the same is true of No. 8 due to the fact that if the business was lost to another industry in competition, it would immediately reduce the normal capacity, and therefore increase the cost in general. On this basis, we believe that sometimes it would be well to even take business below normal cost to retain the normal tonnage capacity."

On the other side of the fence are those who do not believe that even the new competition is a justification for embarking on a policy which does not keep profit in the foreground.

Another malleable iron foundry says: "Not unless they are only in business to wear out their old clothes."

A pump manufacturer: "As a matter of economics, an industry should not take business competitively from another industry at or below normal cost unless they see that by so taking over a greater volume of business they will be able to actually reduce their normal cost to a point where they will make a fair enough profit to continue in business and to pass the benefit of the reduction in cost on to the public. Of course, another consideration that would come into this would be the size of the industry that would be put out of the running and what effect that would have on the economic fabric of the country as a whole."

A furniture manufacturer says: "To take business at or below normal cost is a waste of energy, raw materials, and capital is economically unsound, and has no basis for its existence in business life."

A paper manufacturer says: "Provided an industry has done everything in its power to produce economically, we do not believe it should ever take business at or below normal cost."

A knitting company says: "We do not believe that any industry as a whole in its competition with other industries should ever take business at or below normal cost. This practice only fosters animosity and there is no reason why other industries could not retaliate and come into our field and do likewise. Such being the case, what does one accomplish? All we can see is a price cutting proposition where nobody gets anywhere, and which has a tendency to demoralize conditions and to create in the mind of the buyer an uncertainty as to the market price of a commodity,

and allows him through sharp practices to beat down the manufacturer because of the unfair and unethical conditions existing in business. The golden rule is the best to follow in business, 'Do unto others as you would be done by.' "

A button manufacturer is facing the issue: "Sometimes compelled to do so or lose your present accounts. We are facing this problem in the moulding industry at this time."

A plaster manufacturer states what sounds like an axiom: "A business has no justification for its existence if on an average it cannot sell at normal cost plus a profit."

CHAIRMAN STEVENSON: Gentlemen, I think that gives us an interesting, rapid view of how these questions are regarded by these 700 representative American concerns. Before expressing any of my own views on this subject, which I hope to do a little later on, I think we should now have a discussion of this question from some of you men here, who are vitally interested in it. I would like to have you tell what your own views, your company's views on the subject are, whether you think selling at or below normal cost is justifiable; what you think the effect of it is; whether you are forced to do it, not believing in it; what effect the fact that you are forced to do it, when you may not believe in it, has on your own business and the business of others. In other words, let us examine the subject as well as we can. The meeting is now open for general discussion.

It is always hard to get a body of this sort going and get the spirit to move.

GEORGE H. FRIESEL, *United Engineering & Foundry Co., Pittsburgh, Pa.:* I believe that selling at or below normal costs is, in most every instance, a result of an oversupply. There is one question that was not asked that I believe should be asked, and that is, "When there is an oversupply who starts the price cutting?" The impression I have from the industry with which I am associated is that there is always a leader in an industry, and there is a second, third, fourth and so on down the line. The leader is generally the successful concern, and the order in which the others stand depends on their financial condition. The result is that the less successful concern is usually or naturally the less efficient.

All other things being equal, a buyer would rather buy from a successful organization. If there is enough business to utilize the whole industry, everybody gets his share at a good price. As the

business disappears the man down at the lower end of the line generally loses his business first, and the only way he can keep it is to cut the price of the man above him. When it reaches this stage, it is absolutely necessary that he cut the price. If he has a business in which the fixed overhead is a large item, a saving of half of it may be the salvation of his concern for the time being.

The question that ran through my mind was, "What are we going to do to stop the fellow down the line from starting this thing?" There is a large industry in this country in which one large corporation has been the leader for many years. It used to be their policy to attempt to maintain reasonable prices. Whenever business fell off the smaller concerns proceeded to snatch the business away by cutting prices. This policy was maintained for a good many years but today they are not "holding the umbrella over the little fellow" while he takes the business. Today this little fellow is heard wide and far about the low price he gets for his product and he is the one that started it all.

I have not answered any of Mr. Stevenson's questions but I believe I have injected a thought that must be given consideration in attempting to answer some of them.

CHAIRMAN: I think you have brought up a very good point, and we thank you for it.

Who else would like to shed a little light on this subject?

HARRY A. BULLIS, *Washburn Crosby Company, Minneapolis, Minn.:* I would like to ask Mr. Stevenson a question. What would happen to an industry if every sale of each company in that industry were taken at a profit? Would not such a condition tend to defeat the continuance of taking each sale above normal cost? Would not the companies in that industry make so much money that additional capital would be attracted to the industry, excess capacity result, price levels for the products of the industry be lowered, and many sales taken below cost? It would seem that if conditions in an industry were such that every company engaged in it were making money, that industry would soon be on the downward grade. It is when business organizations have to meet competition, reduce expenses, and be threatened with the possibility of having to take many sales below cost that new ideas, inventions, and more efficient methods develop. I do not know of any industry that does not at some time in its fiscal year make

some sales of its products below normal cost. However, I agree with Mr. Stevenson that we should work toward the goal of not taking sales below a normal manufacturing cost.

Another point I would like to emphasize is that the normal cost for one class of business need not necessarily be the normal cost for another class of business, even with the same product. The majority of manufacturing firms have distinct classes of business, each with a different price level. In this era of large combinations, which has been brought about largely by easy money, certain customers of almost every manufacturing concern have combined and developed a greater collective bargaining power. The manufacturing companies cannot attempt to sell to these customers at the same cost they sell to the smaller customers. In a company of any size, each of these classes of price level could have a different normal cost. The big volume business, resulting in the smallest income per unit, would have the lowest normal cost. The question is, what is the correct normal cost for each different class of business? The complete normal cost for any class might be the anticipated net income per unit less profit; the normal costs for the various classes being set so that, when applied to the sales and production quotas, the total budgeted expenses are absorbed.

An important consideration is that business taken in any class should not depress the price level of the entire industry.

T. B. DUNN, *Kansas City Structural Steel Co., Kansas City, Mo.:* I would like to ask Mr. Stevenson: If when business was good and we had an over-distribution of burden above our actual expense, we credited such excess to a surplus account, and then, when business was poor, by selling at normal cost or maybe below cost, we charged against the surplus account the excess of our under-distributed burden; do you think that would be permissible and would we be affecting other industries or be called unfair if we were to do this?

I am prompted in asking this from the report of Mr. Stevenson wherein there were concerns who felt justified in selling at normal or below normal costs so that they could hold on to their employees. In certain industries, it takes a great deal of time and effort in training men. Then when business is dull and men have to be laid off, considerable expense is incurred in securing and training new men.

I would like to hear some expression from this body in regard to this.

CHAIRMAN: Gentlemen, I guess if we are going to get this meeting on a controversial basis (that is what we do in chapter meetings), I will have to frankly abandon the impartial attitude I have tried to maintain. These gentlemen asked me questions, and I think perhaps it will be a little livelier if I try to answer them to the best of my ability as they are asked, rather than wait until the end of the session.

I think you gentlemen know how I feel about this thing. I have seen so much of it; I have been through so much of it, through so many organizations, through so many trade organizations, through so many individual companies, that I have come to have a very firm belief that it never pays to sell goods at or below normal cost. Of course, that means that you have got to have a very clear definition and understanding in your own mind of what normal cost is.

It is only within the last five years that the business of this country has understood what we call the normal cost, as developed through the standard or predetermined cost methods, well enough to be able to discuss this question intelligently. Previously we talked about selling below cost, and when we talked cost in those days we meant, generally speaking, actual cost with perhaps some standardization of burden.

Under those conditions, with costs arrived at in those ways and thought of in those ways there was no question that there were times when it was not only necessary but desirable to sell below actual cost, because as business dropped off, actual costs went up, and there was no reason that as these actual costs increased the increase should be passed on to the consumer. It gave no added value to the goods. It simply meant they were being produced under less efficient conditions.

But as we handle normal costs now, predetermined costs—where we base our values not on actuals but on standards, representing as nearly as possible the best attainable practice in our industry—we have gotten to a point where we can discuss these questions. I think that is one thing that this organization of ours, this national association has accomplished in the last five years. I believe that it is through the influence of this body, our national

meetings, our chapter meetings, and the great amount of talk and writing and publications we put out on the subject, that we have brought to the business men of this country an idea of what normal costs are and how they may be arrived at.

Our work is not completed by a long way. I don't believe that more than 30% or possibly 40% of the concerns in this country today are using an actual effective standard or predetermined cost. I realize it is, to some extent, a controversial subject, and there are still some men, probably in our own body, who either question the practicality or possibility of applying standard or predetermined costs to all lines of industry; some men who question it from the practical standpoint and some who question it from the point of view of true and accurate accounting. But the fact remains, I think, that the great body of our organization has come to believe in normal standard, predetermined costs, and we are getting this message across to the business men of the country. It is only through this that we are able to discuss and attack this great question of merchandising, of proper price policy throughout the business fabric.

Answering Mr. Dunn's question as to whether it is proper to build up a surplus in periods of activity which can be drawn on to cover losses on sales in periods of inactivity, that is precisely what a standard cost system does. In periods of activity, the actual costs are considerably below the normal cost, and in those periods we build up a surplus. We get operating gains on our factory ends. We may carry them into our surplus, but they are there as a reserve, and necessarily when we come to periods of depression we run into operating losses which are written out of the surplus and eat up the reserve we have built up.

The old practice of business in these periods of activity was to charge excessively high prices, build up a reserve in that way, and lower prices during the periods of inactivity and eat up the profits which were made during the periods of activity. That is precisely what we are trying to get away from. It is precisely that policy on the part of business that led to boom periods and depression periods. In other words, business went up in a series of hills—hills and valleys, up and down. First, we would have a period of depression and then a period of prosperity, and then we would have another period of depression. True, there were other influences—our very poorly arranged banking facilities, the lack of

knowledge as to conditions in trade, volumes of business on hand, stocks on hand, and advanced buying.

But what are we trying to bring about today? We are trying to bring about a steady flow of business, not an up and down flow. Gentlemen, it is being accomplished. We have had now ever since '21—we are entering into our sixth year—very stable business. Business has been increasing, perhaps a little more than the normal increase, brought about by the consumption of the country, but through our better banking facilities; through our ease of money, through the knowledge that we have gained through our trade associations as to volume of business being done, and the stocks on hand, through the stability of price, which has done away with advance buying, through what we have come to call hand-to-mouth buying (which some people decry, but which is one of the greatest stabilizing influences we have), we have, in my opinion, gotten to the point where we can reasonably hope to keep prices on a more or less stable base.

What I contend for is that in periods of activity prices should not be increased, as the mere fact of increase tends to bring the period of prosperity to an end; neither in periods of depression should prices be unduly decreased. In other words, there is at all times a normal cost of producing goods.

Some companies are more efficient and have a lower normal cost than others. But nothing I am saying, nothing anyone has said should convey any idea of trying to take away from those companies who have secured a lower cost through better organization, better equipment, better management ability, or better relations with their labor. If we did that we would take away the great incentive to individual effort. We would take away the gradual lowering of costs which means the increased consumption of commodities. No, that is a great incentive in American business life. We don't propose to take that away. What I maintain is that a company that deliberately sells below its normal cost with the idea of securing more than its share of the business, with the idea of putting the competitor out of business, belongs in a past era. We have gone beyond that point. What we have come to now is the point where everybody, every man in an industry, should recognize that he is simply a part of that industry. That industry exists not primarily to enable him to make a living, but primarily because

it is a part of its job to serve the public of which he himself is a part.

We have all got to have some reason for being here. If our work is simply a question of making money, there isn't very much justification to it. If our work is serving the people and doing our share of the world's work, we have a justification. That is primarily what business is for. But while we are doing that, we owe it to the men we employ, we owe it to ourselves as managers, we owe it to the men whose capital we are employed by, to secure a fair return for all of those things, and, at the same time, to pass out the goods and service we are rendering to the public at a fair price.

It seems to me that should be, and is rapidly becoming, the ideal of modern business. I think a great deal of the price cutting and the bad prices that are being made, are to be traced to men who have not yet realized and appreciated these new ideals, and are still trying to do business in the way most of us tried to do it twenty-five years ago, from a purely selfish standpoint. Because we can't get away from the fact that we all are selfish, and that our motives are determined by our own self-interests, lots of us still think that we can selfishly profit by making an unduly low price below our cost, so as to get more than our share and get the cost down.

That is true; that would happen. I will grant you if any one company in any one line could lower its prices, we will say, 15%, which would bring it 5% below cost, and were allowed to enjoy the increased volume which they would secure by doing so; if they were allowed to do it undisturbed, certainly they would lower their cost to the point where they would make a very satisfactory and increased profit. But the practical point is that none of us are operating in an industry where we can do that without immediate retaliation. I don't know of any industry where an individual company, that amounts to anything, or has any appreciable position in the trade, can lower its prices and hope to secure more than a temporary advantage, because just as soon as those prices are lowered, just as soon as it becomes known that those prices are being made, and it will become known, you have got the whole purchasing power of the people against you, working against you to lower prices. You have most of the salesmen working against you to lower prices. Just as soon as this price cutting comes, you

have got to meet it. Everybody has to meet it, and the whole business is simply cut down to the figure, the inadequate figure that has been established.

Gentlemen, I have seen many, many companies who have pursued one or the other of these policies. And I have seen company after company who have pursued the policy of lowering their prices either with the idea of getting more goods or a bigger share of business, or because they believed competition forced them to it. And I have seen them fail and go out of business and pass through reorganization.

Their machinery hasn't been destroyed. Their machinery has passed into other hands at reduced figures. There is nothing in the thought that it is good business to put competitors out of business, because you can't destroy building, machinery and equipment. Building, machinery and equipment is going to be in somebody's hands.

On the other hand, I have seen many other companies, in the face of competition and great stress, who have taken the firm stand: "We will not sell below our normal cost," and those companies, gentlemen, have had their difficulties; yes, I have seen them shut down, but they have not gone into bankruptcy or been reorganized. In the long run, they have gone ahead and are successful companies today.

Gentlemen, it is largely a question of the mental attitude and the determination and the ability of the men who are managing those businesses. It is true very few of you men here manage the businesses with which you are connected; some of you do, many of you do not. We can't settle this question for the business men of America, because, after all, we are the men who operate and run for the business of America the clerical machinery, the industrial accounting machine. We can give them the facts, and we can all exercise a very great influence on the decisions and policies of our individual firms. There is this to be said: that you men who are sitting here are the men who are going to manage the businesses of America ten years from now. If you get the right concept now and see this thing, as I believe it should be seen, when you men come to be the heads of your business ten, fifteen or twenty years from now, as the case may be, then we will be able to run business a good deal better, I will say, than it is being run today by a good many of the men who are now running it.

I have gone into this matter at considerable length, and I still feel that after opening up this subject in a little more controversial way, probably a lot of you men don't agree with me, so come on up and tell me so. If any of you feel the way I do, come on up and say so. I know there is one man, my friend, John Scanlon from Philadelphia, who has something he wants to say, which he prepared at my request.

JOHN SCANLON, *Hess-Briglet Manufacturing Company, Philadelphia, Pa.:* When the laws of supply and demand fix the price of an article at less than it costs, it seems there are but three things to do:

(1) Refuse to take business at selling prices.
(2) Take business at less-than-cost.
(3) Reduce costs.

Very few companies will want to shut down their plants, as it means throwing men out of employment and disrupting organizations that have taken years to develop. Taking business at less-than-cost is certainly preferable to having an idle plant and it would seem to be good business to reduce the cost of idle time by having part of the fixed expenses absorbed by non-profitable orders.

A company cannot continue to sell something for less than it costs. The selling price, let us assume, is fixed and there is only one thing to do, i.e., reduce costs. How much can costs be reduced by

(1) Using a less expensive kind of material.
(2) Reducing the scrap loss and reoperations.
(2) Installing more efficient machinery.
(4) Eliminating operations.
(5) Reducing overhead.
(6) Putting production through in larger quantities.

These cost-reducing possibilities are familiar to you all, but I do not think companies generally investigate the possibilities of new machinery as much as they should. A great many companies retain a machine until it is worn out, whereas hundreds of thousands of dollars could have been saved by buying and using new, efficient equipment.

In some cases it has proven very profitable to manufacturing

departments to work on orders which, on the basis of past performances, do not seem to be profitable. Not wishing to show a loss on the order, an analysis can be made and methods used which show a profit when the order is completed.

CHAIRMAN: Gentlemen, I thoroughly agree with everything Mr. Scanlon has said. There is no point of difference whatever in Mr. Scanlon's views and my own, simply that I perhaps interpret standard costs a little more rigidly than Mr. Scanlon does. I believe that all of this effort to reduce costs, a thorough investigation of the possibilities of reducing overhead, of introducing better machinery, of eliminating operation, of increasing labor efficiency, should be going on under the highest possible pressure in every plant all the time. When I speak of standard costs I have distinctly stated I mean the best attainable cost. I don't mean that we should figure, if we are figuring the normal capacity of our plant, our normal costs on 80% of the capacity. All I am contending is we shouldn't figure our normal costs on the basis of running 100%, and if we take business away from somebody else they have to run at 60%. As soon as we do that, the man who is forced down to 60% will cut his price, and we will both continue at 80%, and neither of us will have a profit.

If there is any one thing that competitive conditions should bring out, and that we should all be studying all of the time, it is the question of how costs can be reduced and lowered. There have been some extraordinary examples in some highly competitive industries lately where this has been done, and where the entire structure of the individual business has been changed.

Businesses, like everything else, tend to fall into ruts. Organizations fall into ruts. We tend to keep men we don't need to keep; we tend to keep men who are there simply because of family or sentimental reasons, and who are drawing large salaries. They should be replaced by men who are able to do for the company the things which should be done. Surprising results have been secured in the last few years by companies who have made these changes in their organizations.

Has anyone else anything they want to bring up?

H. W. MAYNARD, *Gillette Safety Razor Co., Boston, Mass.:* I recently obtained an interesting slant on a matter of costs, prices and profits. You know that there is at present some dis-

couragement and pessimism among certain New England manufacturers, who think that you gentlemen of the Middle West are taking business away from them. (As a matter of fact, things aren't as weepful as some people think they are.) Some time ago the head of the statistical records of a large New England corporation, doing a business of about $50,000,000 a year, made the statement at a meeting that a profit could not be anticipated where no economic profit was present, and that under existing conditions in New England it was not possible for certain industries to make a profit.

Later I talked with him, and in the course of our conversation he showed me a graph he had prepared, comparing costs and prices for the previous year. He had taken, month by month, a composite price figure for his industry, and a composite cost figure made up material prices, wage rates, and certain overhead items. The resulting graph indicated that over a period of about one year, prices had dropped 3% and costs had also dropped 3%. He said with considerable pride, "Just see how closely the prices keep pace with the costs."

Gentlemen, I read a different story in those figures. For a good many years the control of American manufacture was getting out of the factory into the main office. The sons of the founders, who inherited the businesses, were inclined to run them from the big desk in the outer office, and not from inside the plant. We are getting back now to the proper and logical way, running the plant from within the factory. Yet there are a good many industries where outside control still exists, and I had the definite impression that such was the case in the particular company I have mentioned. Prices had been cut by competition. I believe that the managers in charge of the plants then called in their superintendents and said, "We have had to cut prices; you must cut the costs." Pressure was put on the factories, and costs were cut just enough to make the same profit as before.

I am confident that such a company is making much less profit than it might. If the prices were to increase, would they be satisfied to have costs increase in just the same proportion?

An important proportion of profits starts inside the factory, as a result of applying all the brains available. In my industrial experience, particularly in the past few years, I have seen so many cases where effective and ingenious automatic operations, wage

incentives and expense economies have been superseded by others very much better, that there seems to be no end to the possibilities of improvement. Industrial success comes from studying the material requirements and design, studying the labor and processes, studying the expenses—to find the best and cheapest way of doing each job and getting the costs down to rock bottom, as Mr. Stevenson and Mr. Scanlon have said. If this is done, the earnings will pretty much take care of themselves.

JAMES J. MELFI, *Empire Silk Company, Paterson, N. J.:* To me, gentlemen, the most gratifying result of the statistics compiled by Mr. Stevenson is the proof that 75% of the manufacturers do not believe in taking business below normal costs, which proves, or from which we can make the deduction that the price level maintained today is above normal costs.

Manufacturers who fail to attain the price level may find that either obsolete methods—failure to secure volume production—or an improper analysis of cost are a few of the causes of failure to withstand competition.

I have found that by analyzing costs we were able to arrive closer to the price level maintained in the market. The analysis revealed that operating conditions were not on an efficient basis and by putting the screws on the manufacturing and selling end and securing larger volume, costs were reduced on some articles below market price level. On other articles a price close to market level was maintained.

CHAIRMAN: Has anyone else anything they want to say at this time?

M. M. MONROE, *Inland Mfg. Co., Dayton, Ohio:* Gentlemen I have been waiting for this question to be asked by some of the men who have prepared remarks on this subject. It has to do with the theory that prices should be based on a rate of profit which will provide a normal return on the capital investment. For normal return or economic return attainable we can use Mr. Stevenson's definition of normal costs which he has summed up as "The best we can hope to reach in the long run." If this rate of return is 10% and the normal ratio of sales to investment is two to one, then 5% should be added to normal costs to provide a normal profit.

The question that comes to my mind is not "Should Business be Taken at or below Normal Cost?" but "How Much of this Normal Profit should be Sacrificed?" If the normal profit rate is 5% should we reduce to 4% or 2%, or possibly ½ of 1% in order to get business? There seems to be very little difference, in so far as the economic effect on the industry is concerned, between ½ of 1% profit and ½ of 1% loss.

CHAIRMAN: I think that is a very well taken point, because, of course, we are all in business primarily to make a profit. But in handling this session I thought we would meet the basic evil of taking business below cost. If we can once establish the principle that no business should be taken below cost, then I think we can go on to the next question, which is, What is the normal profit that the manufacturer is entitled to? Then, perhaps, we can establish the principle that none of us should cut our profits below a certain figure. I think we have to approach the thing a step at a time. I think, first, we have to overcome the prevalent erroneous idea, erroneous from my point of view at least, that it is good business to take business below cost.

Gentlemen, to crystallize the results of our meeting I have drawn up a few brief resolutions which express frankly my own view on this subject. Whether they will express your views or not, I have no means of knowing until I ask you; so I am going to read you a series of resolutions which I should like to see passed, providing they represent the sincere belief of this meeting. If they do not, no harm has been done. If it should happen that this series of resolutions represents the majority thought of this meeting, then I think it will enable us to put our views in a rather definite and authoritative way before the business men of America, before their various trade associations, and before the chambers of commerce and other bodies whose influences mold public opinion. After all, this is a question which is determined by the concerted public opinion of the business men of the country. I am going to read you these resolutions.

Resolutions

WHEREAS, The purpose of business enterprise is service and profit in order that labor, management and capital shall be properly rewarded, and the business continued on a sound basis so that the public shall receive constantly better service, and

WHEREAS, As a result of our deliberations we are convinced that the practice of selling at or below normal cost is destructive and unfair except for the purpose of moving defective or obsolete goods:

BE IT RESOLVED—That we deplore this practice and urge every man engaged in business to adhere firmly to a price policy which shall yield a reasonable profit over normal cost;

That we believe the true purpose of competition is to bring about a real lowering of normal costs through greater efficiency;

That we urge every business to develop and install adequate standard cost methods so that these policies may be intelligently applied;

That we urge every man to recognize the fact that he is part of the industry in which he is engaged, that his individual success depends upon the success of the industry of which he is a part, and that whatever he does affects not only his own business but his industry;

That business exists for the service and good of the many and not for the selfish benefit of the individual;

And further in view of the fact that our present laws make it difficult for the men engaged in an industry to cooperate for mutual and public benefit,

BE IT RESOLVED—That we earnestly urge our Congress to investigate the effect of the Sherman and Clayton laws in the light of present conditions, and the benefits which might accrue through new laws which would aid in cooperation and elimination of destructive competition.

Just a word of explanation here. I have put that very mildly. If I put it exactly as I thought, it would be a great deal stronger than that, but I know that we can't hope to carry the thought of a large body of men like this into a definite statement of what our attitudes on the Sherman and Clayton laws are. I am not asking or stating that anything definite should be done. I am merely asking the Congress to consider the matter and investigate in the light of our present attitude toward business, what would be the effect of a modification of those laws that would enable us to come together more comfortably, more happily in our trade associations. I presume that the companies which you men represent, practically every company represented here, is a member of a trade association. Our trade associations are laboring as earnestly and as efficiently as they can, with a sincere desire to stay inside the law, to bring about stability and reasonable profit in their industries. But we are all more or less unhappy under the conditions under which we have to operate. We are never quite sure whether we have gone far enough or too far. Certain things we do today may be all right under this administration. This administration has a

sympathetic attitude toward trade associations, and toward the work and the cooperative functions of trade associations. We might pass into another administration a year from now. What the effect would be, I don't know. I do think that we are justified at least in asking that the matter be given consideration.

Is there any further discussion?

LEO J. ZILG, *Bucyrus Company, South Milwaukee, Wis.:* I am not a member of the Association, but I would like to ask a question. You have spoken and other men have spoken about reasonable profit and commercial profit. I have for twelve years been seeking to get a definition of the term reasonable profit or commercial profit. It seems to me that without common knowledge of what reasonable profit is, it is impossible to have minds meet on this point. You perhaps have a figure in your mind; I have a figure in my mind. We set the prices for our particular industries, and yet if we were to take ten men out of this room and put them in ten separate rooms and ask them that same question, the chances are, if we were to write down the answers we would have ten distinct answers. There must be one answer to that question. The United States government regulates the railroad income at 5¾% on invested capital, and in Wisconsin the public utilities are limited to 8%. What is reasonable profit in industry? What is commercial profit?

CHAIRMAN: I think your question is very well asked. I have my own thoughts on the subject. I have no objection to stating them, and some of you may agree. As you say, every man has a different opinion. My own personal thought is that 15% on the net capital invested is a fair return. I take 15% because I feel that allows a return to the stockholders; that is after proper remuneration has been paid labor, proper remuneration to management, setting up of proper reserves for depreciation, obsolescence and depreciation, whatever other reserves are necessary—a true, final, net 15%, of which I figure that about half, 7½%, should be distributed between the preferred and common securities, should go to the public or the individual owners whose money is invested in the business; the balance going into surplus for the gradual expansion and growth of the business. That is the figure I carry in my own mind, that I have as an ideal for my various clients and trade associations to attain.

I believe that profits in excess of that are unreasonable, too much, and are inimical to public interests. If anyone else has different views, we will be glad to hear from him. If not, as the conclusion of my section, I move you, sir, the adoption of these resolutions.

Gentlemen, I thank you very much for the very patient, earnest attention you have given me this morning and the way you have helped me out.

President Finney resumed the chair.

PRESIDENT FINNEY: Gentlemen, you have heard these various resolutions, and some of you have expressed your opinions. What is your pleasure?

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* I move the resolutions be adopted.

The motion was regularly seconded, put to a vote and carried.

PRESIDENT FINNEY: We will turn them over to the Secretary for action.

I just want to pay a special tribute to the members of the Cost Division of the Colorgraphic Industries who have done honor to your speaker this morning in coming in a body and listening to him. I hope they will avoid partiality by coming into the other sessions and listening to the speakers who have subjects that are also quite interesting.

We will stand adjourned.

SESSION II

WHAT HAVE WE DONE TO MAKE OUR COST RESULTS MORE VIVID AND EFFECTIVE?

TUESDAY AFTERNOON, JUNE 14, 1927

This session was organized under the direction of

ADDISON BOREN

Treasurer, Yale and Towne Manufacturing Co., Stamford, Conn.

A. W. BASS was graduated from the Chicago Institute and Training School as a Doctor of Physical Education. For three years he was with the Evanston Y. M. C. A., but his real work in accounting began as secretary and auditor of the Webster Manufacturing Company. Later he went to the Westinghouse Electrical and Manufacturing Company, where in 1920, he became Director of Works Records and Statistics. Control of manufacturing stocks has recently been added to these duties. He is a member of the American Statistical Society, and the American Management Association, and Vice-President of the Pittsburgh Chapter of the National Association of Cost Accountants.

FRANK B. WOLFE is a Certified Public Accountant (Massachusetts and Michigan), Associate Member of the American Institute of Accountants and a Member of the National Association of Cost Accountants, Member of Faculty of the Midwestern School of Commerce, Chicago. He formerly lectured on cost accounting at the Detroit Institute of Technology and was a Member of Faculty of the Walton School of Commerce. He has been a contributor to the Bulletin Service of the Association and to the technical press, writing on cost accounting subjects. He is at present Manager of the Cost and Systems Department of Barrow, Wade, Guthrie & Company.

T. M. McNIECE was graduated from the Case School of Applied Science in 1907 and received the degree of Electrical Engineer in 1911. He entered the employ of the National Carbon Company in experimental and research work, and for several years was in charge of the production of carbon brushes, specialties, and illuminating carbons and later in the installation of standard plant accounting methods in their various factories. He is now head of the Plant Accounting Control Division of the Union Carbide and Carbon Corporation, New York City. He is an associate member of the American Institute of Electrical Engineers.

J. F. STILES began work at fourteen. Completed high school course at evening school and took courses at Northwestern University. Was for seven years in the wholesale tailoring business, one year with Sears Roebuck as correspondent, and for the past fourteen years has been with the Abbott Laboratories, where he is now Comptroller. He is President of the Chicago Chapter of The National Association of Cost Accountants.

HARRY A. BULLIS was graduated at the University of Wisconsin and spent four months at the University of London. He was Captain in the U. S. Army, 23 months overseas A. E. F. He is now Comptroller of the Washburn-Crosby Company, Minneapolis, Minn. In our own organization, he is the National Director in Charge of Research, and was first President of the Minneapolis-Saint Paul Chapter. He is a member of the American Economic Association, the American Statistical Society, and Phi Beta Kappa, and is on the Committee on Cost Accounting of the Millers' National Federation. He won the second prize in the Scovell contest, "Presentation of Costs for Executives."

GERALD ARTHUR TORRENCE, Graduate of Spearfish, South Dakota, State Normal School. Partially completed courses at Iowa Wesleyan University, Mount Pleasant, Iowa, and at Denver (Colorado) University School of Commerce, Accounts and Finance. From 1917 to 1922 with Scovell, Wellington & Company of Springfield, Mass., four years as local manager. From May, 1922, to May, 1925, Comptroller of Tait Brothers, Inc., Springfield, Mass. June 1, 1925, to date, Assistant Treasurer, Eastern Dairies, Inc., Springfield, Mass. Mr. Torrence has written various articles on ice cream accounting problems published in *Ice Cream Trade Journal.*

WHAT HAVE WE DONE TO MAKE OUR COST RESULTS MORE VIVID AND EFFECTIVE?

PRESIDENT FINNEY: In presenting this session to you this afternoon under the title of "What Have We Done to Make Our Cost Results More Vivid and Effective," I take pleasure in introducing to you one of your national officers who, in his spare time is Treasurer of the Yale and Towne Manufacturing Company, Mr. Addison Boren, who will preside at this session.

Mr. Addison Boren took the chair.

CHAIRMAN: As I understand the function of the one who is to preside here, it is simply to line up people able to make the points that we expect to make under the topic assigned for the afternoon. As an executive it is not my place to do the work but to have somebody else do it. Very fortunately, with the assistance of a lot of people, I have gathered together a squad this afternoon who will fire some ammunition at you that I hope will get home. It isn't supposed to blow you off the face of the earth, but it *is* supposed to make some impression on you, so you will get something from it that will set you to thinking. That may result in some benefit to you. Of course that will be a new idea, to get you thinking; if you do it, it may hurt a little but you will probably get some results.

In discussing the matter of costs this afternoon, we are going at it in quite a different way from the presentation made by Mr. Stevenson this morning. Mr. Stevenson had to do with a subject that brought out and emphasized unit costs. The emphasis was on knowing what the item you were going to sell was costing you, and on what you were going to do about it after you did know.

This afternoon we expect to consider elements of cost, and the way in which those elements may be presented to the interested parties, or to the parties who should be interested, in a way that will get their attention; once having gotten their attention, it will result in getting some benefit for themselves or their concerns.

In thinking of this cost problem we think we have tackled some-

thing rather new. I am reminded that today is the one hundred and fiftieth anniversary of the adoption of the American flag. That seems quite an old matter to us now—one hundred and fifty years ago—yet we think that our cost affairs are a matter of very recent development; that it is something new. I am going to take the liberty of making a quotation, and in a way it may be considered as a text: "For which of you intending to build a tower sitteth not down first and counteth the cost whether he have sufficient to finish it." There may be some of you who will remember having heard something of that kind before. (Laughter.) For those of you who haven't heard it, you will find it in Saint Luke, the fourteenth chapter and twenty-eighth verse.

Apparently it was an old matter then, because the speaker seemed to take it as a matter of course that those to whom he was talking would have followed such a policy. I say that today all we are doing is developing and expounding the thought that was there then. We are still striving to learn whether or not we have enough to build the tower.

In that line we are going to start by hearing Mr. A. W. Bass, Director of Works Record of the Westinghouse Electric and Manufacturing Company. Mr. Bass has talked before one or two of our chapters, and quite a burden is put on him when we ask him to speak on practically the same subject here this afternoon. But he has responded so well, I am satisfied you will be delighted to hear Mr. Bass.

Mr. Bass then presented his paper.

WHAT WE HAVE DONE TO MAKE COST RESULTS MORE VIVID AND EFFECTIVE?

A. W. Bass

Westinghouse Electric & Manufacturing Company

I HAVE made no attempt to learn who may have sponsored this subject for our convention program but I have a suspicion it was some supervisor affected with an advanced case of statistical indigestion. This is a malady not at all uncommon in these days and one which promises to grow even more malignant before sufficient curative measures are found and generally applied.

Accountants are only partially to blame for the situation. If you were to see a man overboard and about to sink, your natural impulse would be to do something quickly, and the fact that you beaned him with a plank instead of a padded life preserver might be charitably considered as manslaughter rather than murder. New conditions surrounding the conduct of business operations have resulted in emergency calls on the accountant and the response has been a noble array of figures (including some facts) marshalled before the reeling gaze of the business executive. Our intentions have been fine even where the dose has induced nausea.

This is a day of large business units and huge combinations of smaller units, with every prospect of further development along the same lines, and it is only too apparent that the management of these vast operations can no longer be conducted through reliance on the personal contact which sufficed in the earlier days, but must now depend on information furnished by the accounting department. In short, this call on the accountant for help is not of a temporary character. We must organize our work to fill, not only a permanent need, but one of increasing importance.

What is true of accounting in general is equally true of that branch known as cost accounting. Such lack as may have existed in cost service has certainly not been lack in quantity of figures, but probably more often lack in their ability to interest, and lack in their ability to be effectively used even after interest has been aroused. In short, they have lacked vividness and effectiveness. Vivid means lifelike or realistic, and if our cost data is to carry this quality to the executive, it must first be true to life or, in short, dependable.

To stress the dependability of figures at a convention of this sort might seem to some like starting with the alphabet. Possibly so, but as a group interested in the progress of cost service, why not face the facts chiefly responsible for the slow growth of faith in our product? When I hear some of our engineers discuss the cost department, it brings to mind the story of a new office boy who started out on a job full of pep and determination. Approaching his boss he handed over a long column of figures and said proudly, "I've gone over those figures ten times, sir." "Good boy," said the boss. Whereupon the boy handed him a second slip remarking, "And here are the ten answers, sir."

Now, the ineffectiveness of many cost figures is not, in my

opinion, due to faulty arithmetic. Why does the manager or engineer so frequently take exception to estimated costs handed to him by the cost department? Usually because the figures represent merely a mathematical operation without any mixture of imagination, and educated common sense balks.

Definite suggestion of a cure for this situation will be considered later; for the present I merely want to stress my experience that any program of vivid cost presentation which makes use of misleading cost data is doomed to failure at the start.

Mere presentation of accurate data will not, however, make them vivid or attractive enough to cause many operating heads, these days, to throw enthusiastic fits. A window dresser may display a perfectly lifelike article of merchandise and witness the passing crowd continue to pass. Let him throw behind that same article the background necessary to set it off and he becomes responsible for traffic congestion.

Dependability and attractiveness are just as important in the product of the cost departments as in that of the engineer and shop. Imagination is needed for the first quality and both imagination and salesmanship for the second. Failure to recognize these facts has resulted in the recruiting of most of our cost organizations from the clerical material offered at our employment gates and it shouldn't surprise us that much of their output has failed to register heavily with the practical and technically trained men whose overcrowded attention we seek to interest.

Of course, we will continue to need a force of cost carpenters, brick layers and plasterers, but if their work is not directed by more capable draftsmen and cost architects and finally made presentable by cost decorators, we will have little to offer but cold figures that chill the marrow.

To those accustomed to think of cost organizations as the logical starting point for expense reduction and as measured in efficiency by the quantity of figures produced per man, this talk of larger caliber cost men will merely sound expensive. If, though, as already indicated we begin to see the rapid increase of dependence of management in large manufacturing units on guidance by its cost accountants, it will be realized that the really expensive situation exists where high paid executives are left groping about trying to determine what or whom to execute. There is no reason that we should expect to find leadership and ability for statistical

analysis, combined in the person of an executive; and to an increasing extent this function of analysis must be taken over by those specially fitted for such work, leaving to the executive the truly executive function of operating the business. You will remember that Mr. Stevenson said this morning that he thinks ten years from now we will be managing the business. I think we can well start to manage some of these businesses today.

Our recruiting ground for men to furnish that type of guidance is certainly not going to be the clerical type of mind to which figures are merely convenient tools for conducting a mathematical calculation. The cost accountant must be a man who sees behind the figures a concrete article of manufacture, or a living story of operating trends and ultimate goals. Many men of this type are to be found engaged in lines of activity which we have hesitated to approach in search of material, mainly because we ourselves were not sufficiently impressed with the breadth of the job we have to offer. Some of these sources of material seem very foreign to cost accounting lines based on our old standards,—I refer to engineers, time study men, demonstrators, tool-setters and men employed on machining operations, for even among the latter are a scattering of young men of good education, whose ambition it is ultimately to gain a place in management. Many of these men conceive cost work as having a scope about like that of a hospital in the mind of a certain small boy. This youngster was sick and the doctor was called. He told the boy he must go to a hospital, and the boy said, "But, Doctor, I don't want to go to a hospital." The doctor said, "A hospital is fine, pretty nurses, everything clean and lots of flowers." "But Doctor, I don't want to go there; I don't want a baby, I want a pup."

If we can succeed in impressing on these men that cost accounting is merely the unfortunate title applied to a job which should be, and in time will be, possibly 10% accounting and 90% constructive guidance to management, many of them will be glad to enter our organizations. It is true, most of them must be educated in accounting principles. No man, however, comes to us fully equipped, and our chances of making a constructive cost man out of intelligent shop material are greater than if we start with the clerically trained man and attempt to interest him in shop methods, machinery and apparatus design. So the first step which I would stress in this program of a better cost service, is that to

quite an extent we change our recruiting ground for these men who are to shape and administer the improved service.

In the ensuing discussion I expect to hear plenty of disagreement with this thought of depending for our better cost men on shop-trained rather than accounting-trained material, but one of the interesting things about these conventions is that we agree on so few things, and certainly if I were merely to voice the unanimous opinion of all of you, there would be little gained from time so spent. However, even if you agree with what has been said, such a change in personnel will, of necessity, require some time and the question remains, "What can we do to improve conditions with the material now at hand?"

My first answer to this question would be to place our present material where it can most quickly absorb the feature it lacks—namely, a close-up knowledge of shop conditions and intimate acquaintance with the men it aims to serve. It will be treading on sacred ground with some of you to say that in my opinion centralization has often been an outstanding curse in campaigns for intelligent cost service. Probably the motivating idea behind this tendency to centralize has been the belief that it meant reduced expense for cost service. In any line of activity the matter of first importance is to produce an article, or a service, that will meet the need which gave it birth, and only after that consideration has been satisfied, can we center on the economical production of the article or service. A careful study of many of these large cost groups gives evidence that their service is not only ineffective but uneconomical. Ineffective because physical separation from the shop department stimulates the age old antagonism between shop and office, and, of even more serious import, such a remotely segregated office group becomes more and more mechanical in its work and dependent on the accuracy of all paper work coming to them. This evil would be less pronounced if manufacturing conditions were static but it is not that type of conditions with which we have to deal. Operation layouts, bills of material and items of waste are constantly changing and often too fast for the formal and prompt transmission to a cost department divorced from the seat of activity. Nor is such centralization as economical as it sometimes appears. Could we analyze the time spent in such departments investigating and correcting the errors which a better knowledge of floor conditions would have automatically prevented, or

could we see the records gradually built up by foremen, time study men and others to meet their immediate needs, which often duplicate those of the central organization, we might see much to offset the saving through specialized work, centralized office equipment, etc. Remember again our first responsibility is to serve, and if our data is to be used, rather than merely recorded, we will do well to place them within convenient reach of those whose interest and confidence we solicit.

So far we have dealt with rather broad approaches to our subject, which in just a word, I want to restate—first, recruit the personnel of our cost organizations from men with more of the shop and less of the clerical viewpoint, and second, locate these men near the seat of operations where they will be able to retain this much needed qualification. This promises first a cost service adapted to actual needs, and, through more personal contact with the operating branch, makes easier the selling of that product to those who should use it.

It was my desire, if possible, to make this paper an expression of the experience of a representative group of our membership. My efforts revealed a modest attitude among our members, which proved a distinct surprise to one who has attended most of the previous conventions. Some offered condolences and others admiration for either my bravery or effrontery (I couldn't tell which) in tackling such a subject. Among the contributions received, however, there was one oft-repeated theme, namely, the need of dependable means of gauging the merit of shop performance, and a speedier presentation of such guiding data to those interested. It was easy to read behind these expressions, that measuring sticks, representative merely of past performance, were no longer satisfying operating heads. What is clearly wanted is intelligently worked out standards, representing a high but attainable level of accomplishment, applied to all important controllable cost factors. The idea is far from a new one, but the rapid increase of interest in the subject during the last three years is significant. With the proper personnel adequately located I know of no line of activity which calls for more serious and continued study than this one of standards. A few years ago we were giving it mild attention under the name of "Predetermined Costs." To that original thought we have now added more thoroughly worked out ideas of administration and behind the banner of "Standard Costs" we

stage some of our most enthusiastic orgies. Some of the discussions remind us of the cubist and futurist periods in art, and before tomorrow's sessions on the subject are over we may all have bad headaches. But that shouldn't discourage us. However technical and nebulous some of the refinements of the program may seem, we can at least subscribe to the desirability of creating standards for measuring performance and start some work in that direction. Many concerns have already taken one of these steps without necessarily recognizing it as part of a standard cost program. I refer to the various methods employed to develop a picture of labor efficiency. While we may call it labor efficiency, it is usually not so much the workman who is being measured, as it is the management. The more one studies the basic causes of overrun labor cost standards, the clearer it becomes that our problem centers, not so much around effort withheld by the workman, as in improper conditions surrounding the workman which only better management can improve. Examples of such conditions are:

Tools in poor operating condition.
Uneven flow of material to the workman.
New employees given inadequate instruction.
High-rated employees on low-rated operations.
Material not up to specification such as hard castings, etc.
Material substitutions because of failure in our storekeeping.
Poor lighting.

We can well afford to devote less attention to the particular style numbers whose costs are rising or falling, and watch rather these general conditions which may be affecting all style numbers. While graphic charts showing the trend of daily and weekly variances from standard labor are both interesting and valuable, the work of the cost department should not stop at that point but such exhibitions of broad trends of departments should be supplemented by analyses of the basic causes of such variances. We have then placed the executive branch of our organization in a position to act without preliminary analysis on their part.

The need for this scrutiny of labor variances is most marked in those concerns whose wage system is other than piece-work, but while piece-work usually stabilizes a large part of the labor cost, much the same sort of investigation is needed under piece-work for variances in the rate of production per man-hour.

Replies from various companies indicate that increasing attention is being given to the budgeting of factory overhead and in this work more and more segregation is being made of such overheads, first to departments, then to controls within each department, and finally to expense classes under each control. This again reflects the endeavor of the better type of modern cost organizations to provide each supervising head with only those figures over which he has control, and at the same time provide a means of measuring the adequacy of such control.

Standards for the control of factory overhead have not been developed to the same degree of excellence as those quite commonly available for direct labor. These latter are usually the product of our time study departments but in the matter of factory overhead we are usually obliged to depend largely on past history as a basis for future expectations. This past history may often represent a poor standard of performance but there is an element in human nature which enjoys outdoing expectations and the mere setting of a goal, even though relatively easy of attainment will, with a proper follow-up, gradually develop the real possibilities and lead to the setting of a more intelligent standard. Entire dependence need not be placed, however, on past records, for time study departments can be of increasing help in setting standards on many expense labor activities such as waste removal, window washing, unloading of cars, janitor work, oiling, timekeeping, some classes of inspection, and other lines which in the past we have not considered approachable in that way.

This question of standards in cost work is a most enticing and significant subject because it sets the line of division between the cost clerk and the cost manager, and indicates the emergence of our work from the clerical recording of past history into the more vital activity of cost control. But pertinent as it may be to our subject of today, we must not dwell longer on standard costs for fear Mr. Crockett will conclude we are trying to steal his thunder prepared for tomorrow's sessions.

Not infrequently we see some product, because of its restricted application, of relatively minor importance, gradually bloom out into a nationally advertised article as new uses are developed for it. We can all remember when talcum powder was used chiefly to soothe the chafed and tender skins of babies. Some brilliant mind added a delicate scent and the ladies adopted it with such

vigor as to leave arm print on each dancing partner. It then needed only the suggestion of its use as a shaving accessory to induce the male of the species to fall in line. As another example we note the development of a well-known antiseptic solution into the successive uses of a dental cleanser, nasal spray, deodorant, dandruff remover, sunburn relief, shaving lotion and water purifier, and I'm satisfied the end is not yet.

While we smile at these evidences of modern merchandising ambition, we may well contrast them with our general attitude toward the use of cost data. Even those concerns who are attempting to make cost information an active element in the control of operations will, in most cases, be found centering their efforts on foremen or shop superintendents. This is a natural, and in fact, a desirable starting point, but we should not lose sight of other and very important fields waiting to be developed.

Huge sums of money are to be saved in many industries by a better linking of our cost organizations with the work of our designing engineers. This question is particularly pertinent in those industries manufacturing machinery, automobiles, household devices, etc. There was a time when our main demand on the designing engineer or inventor, as we then called him, was to produce a model which would operate in a satisfactory manner. Cost of manufacture was a minor consideration, for competition was much slower in encroaching on new fields. Such conditions no longer exist, however, for introduce to the public such unique inventions as radio or iceless refrigerators and almost overnight a host of competing models are on the market. Mere ability to operate properly must be supplemented by that other feature of rapidly growing importance—designs which make possible low manufacturing costs. Just as for too long we have left on the shoulders of plant managers the dual responsibility of statistical analysis and executive action, so we are too frequently demanding of our design engineers both inventive genius and cost judgment. In the nature of things these do not seem to mix, and unless we accept the job which properly belongs to us, and so link up with the engineer as to guide him properly in the cost aspect of his design, we will continue to see models passed on to the shop and started in manufacture only to be referred back to the engineer for one change after another which the more practical shop man finds necessary if low cost is to be secured.

In our contact with shop supervisors, we are emerging from the period when we presented them with post mortems, to the day when we furnish advance standards. A similar opportunity is open in our service to engineers. In some cases it may mean the setting aside in our cost organizations of men who, divorced from the more routine work, can devote all their time to those problems which for lack of prompt and intelligent help the engineer has been too often deciding on "hunch." When a design is later found to have embodied a few diseased cost "hunches," the expense involved in their cure is far greater than we ordinarily appreciate. Additional engineering time is involved, draftsmen must revise and issue new drawings, manufacturing information must be partially rewritten, expensive tools must often be scrapped and new ones made. If the item is for large quantity production, a relayout of the manufacturing department may be involved, workmen must again be trained to handle the modified design and so we start a trail of expense which better cost service might have avoided. This deserves greater emphasis than the time allotted to this paper will permit.

Another field in which cost service can be made effective is through aid to the stores department. This aid takes the form of cost studies indicating economical manufacturing quantities in which parts or assemblies should be brought through for stock. Too often, orders on the shop for the replenishing of manufactured stocks are based solely on activity without any intelligent guidance from the cost department as to the economies resulting from slight increases of investment offset by lower unit costs. The setup cost for some items runs to many times the normal factory cost of the manufactured units and only the cost man is in a position to measure the extent of losses resulting from the entry of stock orders for less than economical manufacturing quantities.

Still another opportunity for the cost man can occasionally be found in assistance to the purchasing department. The need for prompt deliveries and quality suited to particular needs may have led to the placing with some near-by concern of all of the business in a certain commodity without the comparison of prices which would normally be made before purchasing a more standard product. In such cases the purchasing department has little to guide it as to the reasonableness of the price charged by the supplier. I was recently drawn into the review of an estimated cost prepared

by one of our plants for a manufactured article which we had for years been buying on the outside. These purchases amounted to about three quarters of a million dollars annually. The product had been of excellent quality and the service very satisfactory but the cost department presented figures indicating the possibility of manufacturing the article ourselves at a considerable saving. As a result we visited the suppliers' plant, laid our situation before them, reviewed their methods and made various suggestions tending toward cost reduction which they adopted, and as a result they agreed to a 25% reduction in future prices. Such a saving running in the neighborhood of $175,000 a year would look to most managements like both vivid and effective cost service.

Along with this broadening of the application of cost service should go increased effort to vary the presentation of our cost data. A statement is good only in so far as it interests and stimulates someone to the point of effective action. I have an oil-burning furnace in my home which is potentially as full of heat as our statements are of facts, but every time the ignition fails the house remains cold and my wife says unkind things about the outfit's creator. Progress has been made toward standardizing nearly everything but human nature or personal tastes, and it is to the test of the latter that the cost man's product is regularly subjected. A group such as this could doubtless exchange many interesting or amusing experiences along this line. I recall a plant which we opened for the manufacture of a line carrying a profit better than the average. A heavy demand existed for its output, so for a period the attainment of large production volume was of much greater importance than the control of operating expense. The time arrived, however, when cost reduction seemed a proper subject for consideration, and I started with an attempt to interest operating heads in what appeared to be a serious surplus of truckers and unskilled laborers. A statement was presented emphasizing the number of points in the overhead represented by those laborers. Points overhead failed to interest. We tried again by designating departments in which there were three laborers for every five workmen. The ignition still seemed defective. Remembering that this manager had at one time been connected with the time study department, I scouted about for examples of a condition not infrequent where surplus unskilled labor exists. A few of the men were found breaking the monotony of surplus

leisure by assisting productive workers paid on a piece-work basis. We were accordingly paying both a piece-work price and an hourly rate for the same product. This time the manager was interested and the reformation began the next day by an initial release of 28 laborers.

In another plant the purchasing department seemed to be somewhat liberally organized but when we made a suggestion along that line, the plant manager replied that it represented only 1½% of his factory overhead and in those terms it didn't look serious. A new approach was then made by showing that it was costing an average of $1.80 to enter and follow each purchase order. This made quite a different appeal and offered the manager something which his imagination could more easily grasp and he was immediately interested. Many other lines of expense which because they often form part of the factory overhead have been viewed only in their relation to productive labor, may be made to stand out in quite a new light if presented in relation to some factor with which they are more intimately related.

Inspection expense may take on a new significance in some cases when placed alongside the expense arising from defective work. Inspection is, in a sense, merely insurance against defective work and if we find the insurance costing many times what our spoiled work is costing, it may indicate that we are over-insured. Again the combined expense of defective work and this inspection insurance may constitute so large a slice of the factory cost dollar as to prompt a redesign of the item which will make it less hazardous from a manufacturing standpoint.

Among several interesting charts which the cost department of the Ritter Dental Manufacturing Company places before its management each month is one which shows the "percentage of total payroll working under a wage incentive." A company may have time limits or piecework prices set on a large portion of its productive operations and yet be surprised to learn what a sizeable part of its entire payroll is still left working without such an incentive. The desirability of extending the semi-automatic control, gained from time limits, into the field of expense labor begins to appear much more urgent when the situation is presented in a chart of this sort. Earlier in this paper we mentioned classes of expense labor which are readily approachable by our time study departments and as we sufficiently realize the importance of more

actively entering this field, study will doubtless develop approaches to many additional classes.

Another interesting exhibit reached me from the Budd Wheel Company which might easily be applied in many concerns whose product is confined to a few standard lines. They began by furnishing interested operating heads with a daily statement of productive labor, expense labor and expense material for each individual department. The reports of expense items are segregated to various classes and compared with budgets. These budgets are so arranged as to vary automatically with changes in productive activity. This accordingly gives them a daily direct labor cost per unit, and a daily comparison of various expenses with budgets or standards. Many cost departments might have stopped at this point with a feeling that they had done a pretty good job. Not so these natives of Detroit. They evidently realized that their direct labor costs per unit could be showing a steady downward tendency, and their expenses might be inside the budgets and yet those wheels could be carrying them smoothly on toward a receivership. So realizing that the final test of all standards is the profit they produce, their next step was to mould these daily operating statements into a complete factory cost per wheel, and this in conjunction with current selling prices enabled them to produce a daily profit and loss statement. To quote from the letter received from George E. Smith of the Budd Wheel Company: "Shop men are always much interested in profit and loss and daily statements of this nature have done more to make our cost results vivid and effective than anything else we have offered in cost service." Mr. Smith is a man after my own heart for I have long advocated the desirability of familiarizing shop heads with profit conditions of the lines they handle. When we meet our own standards we have merely brought our manufacturing efficiency up to our own conception of excellence, and it is only by keeping our eyes glued to the current profit showing, that we can check our standards intelligently with those of the other fellow.

About two years ago three representatives of one of Germany's largest industrial concerns spent some time in this country examining American management methods. I enjoyed a two days' headache endeavoring to discuss with them through an interpreter, cost accounting technique and methods of presenting statistical data to managing heads. The German mind has many achievements to

its credit, particularly along lines demanding intensive analysis and painstaking research, and this same tendency was well exemplified in the volumes of detail operating data they supplied their managers each month. They were amazed that we got along with so little. I was reminded of this when reading the following paragraph in a letter from Fred. C. Thurston of the American Optical Company:

"The day of long and carefully prepared cost reports that must pass through the hands of several executives before reaching the interested foremen, etc., is past. The short, concise, informal (and I like that word 'informal') reports showing comparison of labor operations with standards, a variation as to the use of material from standards, and a variance of actual burden from standards, becomes a much more important document in aiding cost reduction."

The outstanding difference I noted between German and American operating reports was that the former presented voluminous data which needed a great deal of study and regrouping before conclusions could be drawn. The American reports are more and more avoiding the inclusion of figures unaccompanied by some form of measurement either in the shape of a theoretical standard or a summarized history of previous performances. If we report material consumed for the month we are inclined to show it with the measuring stick already applied, namely, in ratio to product turned out for the month. We, to a large extent, predigest the statistical banquets offered for managerial consumption.

Chief Dispatcher Boren has made it clear to us that this session is to be run on a pretty definite schedule, so I'm going to relieve his mind and yours by shutting off steam and coasting into the station, but on our way in let us briefly review the route we have traveled.

To serve the shop successfully we should:

First—Recruit into our cost organizations more of the shop-trained and less of the clerically trained men.

Second—Locate the cost groups close to the manufacturing supervisors where they will be considered fellow helpers rather than gumshoe nuisances.

Third—Make an increasing use of standards by which to measure all cost factors.

Fourth—Extend the scope of cost service to include the needs of engineers, storekeepers, purchasing agents, rate men and others.

Fifth—Adopt a variety of presentation—supplement formal statements with news items.

There is a five-course meal and every course a heavy one, but the process of digestion may be considerably aided by two little prescriptions extracted from a letter sent me by Leslie B. Stevens of the New Department Manufacturing Company.

The first of these recommends that we refrain from making the form and content of our reports the exclusive brain-children of the cost accountant. In other words, consult the supervisors' tastes and at least as a first step give them the information they want in the form they want it. With confidence and interest so enlisted, our chances of broadening those interests and making more digestible new presentations which we may devise will be greatly improved.

This paper has offered many intimations that the cost man's approach to management can be improved so we make no apology for giving emphasis to another little prescription taken from that letter of Mr. Stevens. I shall quote one paragraph verbatim:

"I am indebted to our Division Manager for permission to send this material to you and also wish to remark that were it not for his encouragement and farsighted attitude toward the use of costs, we never could have accomplished as much as we have in putting them over."

Truly blessed is the cost man who works in that sort of an atmosphere and so my closing word is to the managers, many of whom are numbered among our members—"Look for and demand large things of your cost men and you'll have an opportunity of looking on in amazement at the way they'll grow."

CHAIRMAN: The plan for continuing the discussion this afternoon is that the succeeding five men will very briefly tell of experiences they have had in presenting cost matters to those in their organizations. We will wait until the end of the presentation of these different papers before the meeting is open for additional illustrations from the members, or questions, or points raised in the papers.

Our next speaker will be Mr. Frank B. Wolfe, of Barrow, Wade, Guthrie & Company.

Mr. Frank B. Wolfe then read his paper.

GATHERING COST DATA

FRANK B. WOLFE

Barrow, Wade, Guthrie & Company

ORDINARILY, I would take advantage of an opportunity of this sort, to tell a humorous story, but unfortunately the seriousness of the subject under discussion, and the limited time at my disposal, compel me to forego that pleasure.

Instead, I am going to discuss briefly several matters pertaining to the gathering of cost data which, in my opinion, should first be given careful consideration before any decided efforts would be justified in developing methods for the vivid or effective presentation of the results. To bring out clearly the points I wish to make, it might be well to consider again what the objectives of a cost system are.

The principal objectives of any cost system are, or I believe, should be, the gathering of accurate dependable cost data, in such manner as readily to permit the prompt presentation to the proper executives of essential cost information in readily understandable form.

Therefore, if cost data are to be valuable as an effective aid in management, they must be not only accurate, but must be gathered in such manner that the information may be presented promptly. Attention should be directed by executive reports to adverse conditions in time to prevent them from becoming chronic, and in order that corrective measures may be taken to prevent potential losses from becoming actual. In other words, any presentation of cost results, no matter how vividly and effectively made, can be of real value only to the extent to which the cost information is of current, as well as of vital interest.

Another important requirement in the presentation of cost results is conciseness—that is to say, the need of expressing much in brief form. The wide use of graphs and ratios, is, perhaps, a recognition of the need of conciseness. Much of the good work

accomplished in the gathering of accurate cost information will be lost in its presentation if the vital facts are not carefully separated from relatively inconsequential detail. Probably all of us have seen reports which, because of the mass of detail in which vital facts were buried, were more effective, in concealing information than in conveying it. The statement has been made by a prominent cost engineer that it should be possible to disclose most of the pertinent information in respect to a month's manufacturing activities in a report presented on a sheet of paper, letter size, that is 8½″ x 11″. Perhaps this is carrying the matter to an extreme, but the statement aptly conveys the thought—the need of brevity.

From discussions with a number of executives of manufacturing companies, I am of the opinion that the cost data of greatest interest are those connected not with usual conditions, but with unusual and exceptional conditions—both good and bad. When cost data are gathered in such a manner that the unusual conditions are readily and promptly disclosed, there can be no difficulty in preparing concise reports of current, vital interest which should be of real constructive value to management. It is in connection with the determination of unusual conditions that standard costs and budgetary control accounting are of greatest use. A comparison of current cost results with standards, previously determined either from experience, or by time study and analysis, should disclose all unusual conditions, and readily permit the separation of essential from non-essential data.

Just what may be considered essential information, for presentation for executive use, of course, depends greatly on the extent of progress made by a company in its cost work. At an early stage in cost progress, information must be presented in greater detail than should be necessary later. There probably would be very little that was not of interest in the cost results obtained from the first month's operation of an adequate cost system by a company which previously had done little in respect to costs.

The need for prompt and effective presentation of cost results perhaps can be brought out well by citing an actual case illustrating the failure of a cost organization to properly recognize and present highly essential information. I have in mind a company engaged in mixing or blending liquids (not liquors—liquids) which, after operating many years without an adequate cost system, installed one based upon fundamentally correct principles, in-

volving the use of budgetary control over manufacturing expense, and of standard burden rates. At the end of the first month's operation of the system—a month in which the company was making strenuous, but not entirely successful, efforts to produce sufficient to meet sales demand—it was found that only about 75% of the burden had been absorbed in the cost of the production of the month—and this in a period of unusual activity. Naturally, the system was regarded with suspicion, and the accountants were called upon for explanation. However, and, perhaps, I should say fortunately, it only took them a few minutes to obtain a copy of a capacity report, which had been prepared in accordance with the routine provided, but which, through failure on the part of the cost department to recognize its importance, had not been submitted to the management. This report showed (expressed in per cents) the extent to which each tank had been used, and examination of the report showed that approximately 25% of the equipment had not been used at all—and this during a rush period. Why had the equipment not been used? Because the management actually had not been aware that it existed.

Probably you would be interested in knowing how a company prosperous and in many respects, well managed, could so completely lose track of some of its equipment. In explaining, it is necessary first to describe the building and equipment. The building was a three-story affair. The second story poorly lighted and rarely visited, contained a miscellaneous assortment of mixing tanks and vats in which the liquids were blended. The intake or feed pipes to this equipment were located in the floor of the top story; the outlet or drainage pipes were located in the ceiling of the bottom floor. In the cost accounting practice, each tank or vat had been made a separate production center, the standard burden cost of which would be unabsorbed in accordance with the extent to which the equipment was idle.

Shortly before the installation of the system, there had been a change in superintendents. The incoming superintendent had not been aware that his predecessor, apparently in a misguided effort to reduce maintenance expense, had removed many of the intake and outlet pipes, when rendered useless through rust and had failed to replace them. The floors and ceilings had been repaired in such a manner as effectually to conceal the existence of part of the piping connected with the mixing tanks.

Naturally, as soon as the management was advised of the situation, through presentation of the capacity report, immediate action was taken to replace the missing piping and to put the idle tanks in use—thereby remedying a condition which if not corrected, would have considerably curtailed future profits.

Of course, the story I have just told involves an unusual combination of circumstances, probably rarely encountered. The conditions described could not have existed under scientific management, and it is true that they were promptly disclosed through the first month's operation of an adequate cost system. But it is also true that in almost every manufacturing business, conditions develop from time to time which, if not promptly corrected, would result in future losses. A cost practice should be so designed and operated as to disclose promptly all adverse conditions, and there is always need for the exercise of judgment on the part of cost organization in the selection from the mass of cost data of information of immediate interest, for presentation to the management as promptly, as vividly and as effectively as possible.

In conclusion, I wish to emphasize the need of dependable cost information for presentation promptly and concisely, either by use of graphs, ratios, standards or otherwise, as might be brought out at this session. If the cost information is gathered in such manner as to meet these important requirements of an adequate cost system, then, and then only, can any presentation of cost results—no matter how vividly and effectively made—be of *real* constructive value in the management of a business.

CHAIRMAN: Mr. T. M. McNiece, Plant Accountant of Union Carbide and Carbon Corporation of New York, will present the next section of our meeting.

T. M. McNIECE: I will confess frankly that I am a bit nervous. Mr. Bass has spoken of the disagreements that arise out of these discussions as being one of the characteristics of the convention. I admit I am a little bit afraid of our Chicago delegates, and if they have not been stripped of their machine guns at the door, I want them to be charitable. I will take my chance with the fellows from the rest of the country, but I am afraid of Chicago.

Mr. McNiece then read his paper.

WHAT WE HAVE DONE TO MAKE COST RESULTS EFFECTIVE

T. M. McNiece

Union Carbide and Carbon Corporation

WHAT have we done to make cost records more vivid and effective? There is no ready answer to that question. From what cost records have we secured or are we securing the most effective results? There is no definite answer that will satisfactorily cover the whole field of our operations. What are cost records as we compile them? Again the field is broad and the possible answers almost without number. We may say in brief, however, that the objects of our cost activities are to determine

(1) The cost of operations.
(2) The cost of product.

Through a statement of cost of operations, we provide a means for maintaining plant operations with a minimum expenditure of money, and by adequate statements of cost of product, we furnish data that permit the attainment of minimum cost of individual products and that afford information essential for the determination of profitable trade policies. Cost of operations is valuable chiefly in controlling the elusive element of expense or burden, while cost of product is especially valuable in the control of direct material and direct labor costs.

Each plant keeps its own operating records and plant ledger and furnishes each month a plant balance sheet together with exhibits or supplementary statements showing details of all expenditures by departments in the three basic elements of direct material, direct labor and expense. The values of material, labor and expense are displayed separately in the plant ledgers for all process and finished inventories, and are merged only when sales are charged for shipments made. Each plant charges its shipments of product to sales at cost of production and no attempt is made to judge any phase of plant performance by profits.

The statistics come from the original entries made on stores issues, time cards, production reports, etc., and when collected and summarized, form the debits and credits to the various operating accounts. In this way, 100% of the expenditures are definitely

accounted for in the operating reports furnished to the departmental heads and other executives.

Expense accounts are classified into such fundamental divisions as supervision, maintenance, heat, light, power, supplies, etc., and are listed in a uniform manner for all departments within a plant and likewise for all of the plants operating under the standard system. The supplementary exhibits furnished each month with the plant balance sheet, display in a uniform manner direct material, direct labor and each of these classified expense items for each department in the plant as well as for each plant as a whole. In addition to this, each foreman receives a monthly statement of his own operating expenditures, displaying in the detailed standard form, 100% of his own operating costs.

Moreover, certain control figures are furnished to the foremen daily and others summarized are given to him weekly in comparative form. It is then apparent that each foreman is given the measure of his own operating results, some daily, some weekly and a summary of all expenditures monthly.

In this brief discussion we do not wish to dwell unduly on what might be termed the mechanics of our methods. On the contrary, we do wish to emphasize the human or organization side of our common problem. It seems to us that it is almost axiomatic that in order to be truly effective, at least two primary conditions must be satisfied by the cost plan and its administration:

(1) The methods in use must produce something of real value to the plant operating executives.
(2) The operating management must take something more than casual interest in the use of the data provided as a guide in operations.

How can the data resulting from the cost plan provide information of real value to plant executives? It is our contention that this can be done only by providing a record of expenditures in the same fundamental divisions as those causes which occasion the expenditures, i.e., direct material subdivided into its elements, direct labor subdivided into its component operations, and expense classified into such basic elements as supervision, maintenance, supplies, etc.

Furthermore, these detailed expenditures must be supplied for each department which exists as such—not only for manufacturing

departments but also for auxiliary and service departments. Each of these departments, speaking generally, is supervised by some individual and the departmental results are therefore a measure of individual performance in management which is a point we wish to emphasize. To express our thought in a different way, we may say that, in effect, our accounting schedule was designed primarily to give the plant executives a prompt and accurate statement of operating results, and secondarily to furnish the financial division of the management with a historical record of cash expenditures and the results therefrom. Too frequently, it seems, a system of accounts is designed with but little thought for anything more than a financial record as distinguished from a plant operating record and we may then wonder how we can make our costs more effective.

It should be admitted without discussion that records must be accurate and must be promptly secured. It should also be apparent that they may be both accurate and prompt and yet not be valuable or usable to the plant executive. In order to encourage the use of the operating data, the records should possess the elements that will arouse interest in them. How can this be done? It can be accomplished in part by setting up the data in such a way that they may be used to measure the results of management on the part of each individual who is entrusted with a measurable part of the responsibility of management.

In any ordinary manufacturing enterprise, the causes of expenditures are so varied and the number of transactions so great that it is far beyond the power of any one individual to scrutinize each one and to determine its merit. The place to control expenditure is at the point where it is occasioned and the time to control it is before it is made—not afterward. This thought leads directly to the foreman or other department head as a most effective aid in the economical operation of a plan. It involves the delegation of responsibility on the part of the superintendent to the foreman as an aid in preventing unnecessary or wasteful expenditures—but delegation of responsibility does not and should not mean surrender of responsibility.

We have secured most effective results in producing economies through the custom of the superintendents in interviewing their foremen regularly on the question of departmental operating costs

and requesting suggestions for ways and means of reducing expenditures.

I do not subscribe to the thought sometimes expressed, that foremen as a class are hard-boiled, hard-headed and unappreciative of the value of their records of results. On the contrary, given the same educative attention and opportunity to understand the importance and use of cost records, we have found them to be just as keen for the use of the data as superintendents and managers.

Where it has seemed necessary to do so, we have pointed out to the foremen that while they are engaged principally in producing goods for sale, actually the product they are making is merely the means chosen for making a profit, and that the principal object of their endeavor is to make money rather than merely to make the product.

It is, therefore, fair and logical to expect that part of the time of the production executive should be given each day to the problem of making money or saving it—which is the same thing for the purpose of our discussion. We wish to say most emphatically that it is this constant consideration of operating economies as distinguished from casual or monthly consideration only that produces effective operating economies.

Excluding exceptional cases and speaking generally, show me a group of foremen who are not interested in their departmental records and economy of performance and I will show you a superintendent of the same type. If, therefore, the foremen characteristically fail to measure up to reasonable expectations, it may pay to spend the missionary effort on the superintendent or manager. And do not forget that this same trail of reasoning may be followed to the top-most level of the organization.

This thought leads to the point that operating management must take something more than casual interest in the use of the data provided.

Cost records cannot attain their maximum effectiveness if their active use is limited to members of the accounting staff. When a foreman or any other executive is held rigidly to account by his superior in authority for his operating expenditures, he must, of necessity, devote some of his efforts to their consideration. This same result is not secured when the use of such data is merely

urged—as of necessity it must be—by someone not clothed with authority to secure definite action.

In presenting cost records to executives, special effort should be made to make them as attractive and as forceful as conditions will permit. Educative and persuasive effort, under certain conditions, may be even more necessary with superintendent and manager than with executives of lower rank until they recognize the full value of statistical control as one aid to management.

It should be remembered that these data of which we speak may be considered in two ways:

(1) As a historical statement.
(2) As an effective aid in current and future management.

History is a record of the deeds and misdeeds of the past and we are, for the purpose of this discussion, interested in it only as it may be used to improve operations today and in the future. Possibly too many executives are content to use the information for historical reference only. We conceive it to be one of the responsibilities of the accounting staff to strive constantly to present indisputable facts in a clean-cut, logical and attractive way that will compel the attention of responsible executives. This may call for new combinations of data presented at times in tabular form and at times in graphical form. The effectiveness of some types of records is greatly increased by properly drawn graphs.

In the attempt to make our cost records really valuable, we have, from time to time and in different places, introduced various types of records that in their field of application have proven very effective. These may be listed briefly as follows:

Idle Capacity Expense Account.—In those plants suffering from extreme variations in load, standards of expense are set up departmentally for standard output and product is charged each month with expense at standard rate, the difference being charged or credited to the Idle Capacity Expense account, which amount in turn is charged off each month against profits. This eliminates most of the troublesome variations in production cost that arise in variable load and makes any variations from other causes more significant.

As the first step in determining standard expense, the estimated operating expenditures in all detailed classifications are determined for all departments—both manufacturing and non-manufac-

turing. These, in a sense, constitute an operating budget and afford what might be termed a yardstick with which to gauge actual expenditures.

Black Books.—In our shop parlance, the term "black book" is applied to the loose-leaf binder in which we insert sheets 8½" x 11" in size and upon which we post each month the data transcribed from the monthly balance sheet and exhibits which display the charges for material, labor and expense in their various forms. Each sheet is printed to provide for two years' records by months and makes an excellent comparative record of performance. The estimated standards are inserted at the tops of the columns. The back of the sheet is ruled in cross-section form for the graphical display of data where advisable.

Departmental Reports.—Each month each foreman is given in standardized and detailed form a statement of his operating costs. The data of major importance are also transcribed on the comparative sheets in a binder retained by the foreman so that the trend of expenditures is apparent. The standard or budgeted expenditures for normal output are posted at the head of their respective columns for purpose of comparison.

Synthetic Costs.—In some plants for major products we compile a synthetic cost subtotaled by departments. This cost sheet displays (grouped by departments) a complete bill of materials used, a full list of labor by operations, and expense at the actual rate encountered for the month together with totals of the three elements. This cost sheet indicates the manufacturing costs attained each month in each department, whereas the actual production cost may carry charges for materials from semi-finished stores that were made at some previous time. The advantage of this cost sheet for control purposes is that it shows the actual performance for the month in each department without the influence of costs from any prior period.

Comparative Cost Sheet.—For some products that are made in more than one plant, the works managers' departments combine in comparative form the synthetic costs from each of the plants. Copies of these comparative costs are then sent to each superintendent whose plant fabricates the product. Each superintendent then has a comparative record of the costs at all plants in complete detail and utilizes this in discussion with his foreman to re-

duce costs where they may be out of line. This cost report frequently results in an interchange of visits among plants in order to study the best methods. In this way the exceptional performance in any plant is made a subject of study by all plants involved.

Cost of Scrap.—In most lines of production, the cost of scrap produced is one of the large individual items of loss. We recognize no normal or standard scrap. In some plants all possible causes for scrap have been compiled in a standard list. The inspector's rejection tickets indicate the nature of the fault and the causes. Standing salvage orders are in force, subdivided in such a way that the cost of net scrap resulting after salvage, as well as cost of recovery is displayed for each classified cause. These data are furnished to each foreman each month. This has had the effect of reducing scrap in many cases to a small fraction of what was previously accepted as inherent in the business.

Expense Per Unit of Output.—In order to improve the control of expense and to show the full effect of each item of expense on cost, we have, where possible, furnished a statement secured by dividing each classified element of expense by the output for the month, thereby deriving such data as supervision per unit of output, maintenance per unit of output, etc. These records are exchanged each month among plants where the same product is made. They have proven most valuable in attaining additional economies.

Expense Equation.—It is well known that total expense varies with plant output, that is, in a well-managed plant total expense will decrease as the output decreases and increase as the output increases. How much expense should vary for a given load variation is not so apparent. By analysis of operating results over a period of time, we have been able to determine the relationship between expense and load in a fairly satisfactory manner, and to derive a series of equations, each one of which applies only to its own individual plant. These equations are based on actual results attained in the past and in the few cases where they have been introduced are used by the operating staff:

(1) To calculate expected results to check against actual performance.

(2) To determine the most economical distribution of load among several plants making the same product.

Represented graphically, these equations give what might be termed the "operating characteristic" of the plant and in a sense might be compared with the efficiency versus load curve of an electric generator or motor.

To recapitulate, we are firmly convinced that really effective results from cost records can be secured only if the following conditions are satisfied:

(1) Records produced must be accurate, timely and really useful to plant executives.
(2) The management must not merely tolerate but must actively and aggressively use the records not as history alone but chiefly as an operating tool.
(3) Relationship between accounting and operating staffs should be thoroughly coordinated. In spite of opinions commonly expressed there is no clear division between them.
(4) The accounting staff should know intimately its plant, product and organization as well as the mere routine of its own work.
(5) The accounting staff should assume the responsibility for exerting whatever educative effort may be necessary to prove to general manager and foremen alike the value of essential statistical facts as an aid to good management.
(6) In doing this missionary work, the accounting group should break away from precedent and compile the data in new combinations that will be forceful and effective.

If we have made our costs effective in any measure, it is because we have attempted to satisfy the conditions we have just enumerated. If the accounting group can recognize and measure up fully to the responsibilities just outlined it will sooner or later emerge from its shell and be definitely accepted as a vital part of really good management.

CHAIRMAN: Gentlemen, the next man to come up on the firing line is Mr. J. F. Stiles, Jr., Comptroller of the Abbott Laboratories. He needs no introduction since he has been so prominently before you today.

COSTS AT ABBOTT LABORATORIES

J. F. STILES, JR.
Abbott Laboratories, Chicago, Ill.

FOLKS, I understood that this little addition to the principal paper this afternoon was to give a little personal testimony as to what we did, and what were the principal things which excited the greatest amount of interest in our cost system at the plant. I want to tell you here briefly that the principal thing that is exciting the interest of our executives and our various plant managers in the cost department is the report called the budget report, which we send to the different department heads each month. In our plant the various department heads make out their own budget requirements, and at the end of each month, or shortly thereafter, we send them a little typewritten note showing how they stand on the budget, a detailed copy of which goes to our vice-president and works manager.

The second most interesting thing is on those items on which we have established standard costs, there is a constant wondering of whether or not the actual costs are down to the standard, and also whether or not the total summary of the production of items which have standard costs is within the requirements.

Third, and by no means the most ineffective little instrument for establishing interest in our cost records, is a group bonus plan which we have put into operation gradually but consistently in the various departments. It might interest you to know that those departments in which we have group bonuses established, were the first to get back to normal operating costs.

The budget, of course, is interesting both to the manager and the plant superintendent, the standard cost to the department manager and the foremen, and the group bonus to the individuals who put a little more in their pockets at the end of each day.

I haven't tried to go into great detail on this matter, but Mr. Boren asked me to explain briefly about the group bonus. Under the group bonus method of wage payment, the group is divided into just as small groups as possible of men who feel that they personally affect the result of that particular group. We have our bonus in effect now in our order department, our tabulating department, shipping department, and also in two or three of the manufacturing departments. I don't believe it is necessary to say anything more.

CHAIRMAN: Mr. Stiles made a quick run and made up for some of the time lost by McNiece in his quarter of a mile which was assigned. Now we will hear from Harry A. Bullis, Comptroller of Washburn Crosby Company, Minneapolis Minn. You have heard of them—"why not now!"

H. A. BULLIS: Folks, now is the time to take a good nap. It won't worry me a bit to have you sleep, because I will just simply think you think I am getting along fine and don't want to be bothered. If you do sleep I hope you won't make the error that a deacon made. He was having a fine sleep while the minister was preaching very earnestly. As the sermon was nearing the end, the minister looked down and saw the deacon batting his eyes and waking up, and he thought it would be a fine time to have prayer, so he said, "We will now have prayer. Deacon Smith, will you lead." The deacon woke up with a start and said, "Tain't my lead; I just dealt."

The last time I was fifth on the program everybody walked out on me except one man, and finally I stopped my little talk and said, "What are you, a Senator?" He said, "No, I'm the next speaker."

I don't want to be the only man left here when I get through.

Mr. Bullis then read his paper.

WHAT WE HAVE DONE TO MAKE COST RESULTS MORE VIVID AND EFFECTIVE

HARRY A. BULLIS

Washburn Crosby Company

PURPOSE OF OUR COST PRESENTATION. All presentations of our cost figures are based upon the principle that cost data are good only in so far as they are useful in increasing profits. The aim of our cost accounting is to furnish the executives of the company with a day-by-day control in order that they may see what they are doing and where they are going.

DAILY PRESENTATION—GENERAL MANAGER'S DAILY STATEMENT. Each day an up-to-date picture of the essential facts of the business is given to the president and general manager in order that they may have a daily bird's-eye view of all major operations. This picture comes to them, in tabular form, on the "General Man-

ager's Daily Statement," 8½" x 11" in size, with three holes punched on the left side so that the sheets fit into a standard loose-leaf binder. By careful planning of the form, we have been able to summarize the major current operations on one sheet.

Sales are placed first. Total sales for the day are shown, and the cumulative total of the sales to date for the month and year are compared with the quotas and with the sales for similar periods of the previous year. The estimate of profit or loss for the day and the cumulative total for the month, based on standard costs, are shown. The total output of our mills for the day is given and the cumulative total to date for the month and year is compared with the output for similar periods of the previous year. The volume of shipments of finished products to customers for the day is also shown, and the cumulative total for the month and year is compared with the quota and the shipments for similar periods of the previous year. Other barometric figures are shown, all of which are guide-posts to the future. This daily statement shows the president and general manager how the company is keeping up with the scheduled plans. It brings to light vital variations of current operations from the quotas or budget, and thus focuses attention on unfavorable practices so that action may be taken immediately to remedy weaknesses.

MONTHLY PRESENTATION. (1) *For Directors and Major Operating Heads.* As soon as the monthly figures are available, the directors and major operating heads meet to look over tabulated monthly and cumulative data, showing the essential figures of the business, summarized on large charts, of uniform size, 5 feet in length and 3 feet in height. These charts hang in a movable cabinet specially built for the purpose. The lid of the cabinet can be opened, and any one of the charts pulled up and hung on posts which pull up on each end of the cabinet. On these charts the monthly and cumulative figures during the current twelve-month period are compared with standard costs, quotas, and budgets, and with similar figures for the previous twelve months. Only the essential "figure-facts" of the business are shown, including the principal variations of actual from standard.

Most of the tables on the charts are planned so that there is space for inserting figures month by month for an entire fiscal

period of six months or a year. In some cases we have a new chart each month.

The figures on these charts are large enough to be read at a distance of from 10 to 15 feet. To aid in visualizing them, different colors of ink are used for standards, for the current year, and for last year; blank lines and spaces are arranged where they assist the eye.

The first two charts in the presentation summarize the data which the group is most interested in knowing about at once. They show the net earnings for the period and the principal financial statement items, and summarize the major cost data essential to the management of the business as a whole. The other charts are tabular cost statements.

Presentation of the figures from these charts is made orally; the person giving the talk points out in a clear-cut manner the monthly fluctuations in the figures and the effect of various policies, and paints a word-picture of the business of the entire company, with special emphasis on the points upon which executive action is necessary. In this way, those who control the company's operations learn in the quickest possible manner the essential current facts about the business—thus saving them time and energy, and making it possible for them promptly to rectify practices found to be below standard or otherwise unsatisfactory.

Presentation of the figures of the business to a group in this manner allows the general manager to capitalize on the psychological fact that, if a man knows that a record of his progress toward a standard is being currently studied by the management, he is going to do his utmost to make the best record possible. For instance, the general sales manager, who is one of the group, will not meet with the directors and have it shown, if he can possibly help it, that costs were high last month because he didn't reach his sales quota or stay within his budget. No, he will strive to make his quota and be under his budget. The same reasoning applies to every manager in the group.

(2) *For Managers and Principal Foremen.* Every month each of our managers—the general sales manager, branch office managers, general mill manager, and branch mill managers—and the principal foremen are furnished with monthly cumulative schedules upon which are visualized the operations of the business under their supervision. These schedules show only the data which

pertain to the person to whom the schedule is sent. The data on them are so classified for each manager that he will see the picture in the easiest and best way. The schedules not only look easy to read, but *are* easy to read.

They fit into the ordinary standard size three-ring binder for 8½" x 11" sheets. It is necessary to fold some of the larger schedules so that they will fit the binder. The binders, either cloth or leather, are labeled on the outside and the schedules are classified by means of suitable index tabs.

In some cases the schedules are photostated and a new one sent out each month. In other cases, during the first month of the fiscal period cumulative schedules are made up, showing the standard costs, quotas, budgets, and monthly figures for the previous year, and leaving blank lines on which are to be inserted the current data for each month as the figures become available. Schedules, or data to be entered on the schedules, are sent out with a simple, clear statement calling attention to significant facts. This write-up is not a cost accounting essay, but a simple statement for the purpose of making the data easily understood. Most people do not see all of the essential figures and principal trends by merely glancing at tables and charts. Usually these figures or trends must be pointed out either orally or by means of a written statement.

PRINCIPLES OBSERVED IN MAKING REPORTS, CHARTS, AND SCHEDULES MORE VIVID AND EFFECTIVE. We feel that all cost data should be visualized so that there are read into the figures the stories they should tell. Therefore, our cost accountants are trained to have a practical knowledge of the business and of the problems of management. This helps them to be good salesmen—not to sell figures, but to sell profits and easier ways of getting things done.

In brief, we have made our cost figures more vivid and effective by:

(1) Serving up accurate cost data hot—not cold.
(2) Calling attention to variations, and their causes, of actual from standard costs.
(3) Visualizing the cost data, and presenting them by the method which will be most easily understood by those who use the data.
(4) Following through and getting action.
(5) Subjecting all cost data to the test—Can they increase the profits of the company?

CHAIRMAN: Our next speaker feels that he has to have a little bit more support and backing than he can have right here on the desk, so he has gone up to the gallery above and is preparing to show you something. There is no use of my talking while he is up there because you won't be paying any attention to me, but will have your eyes on him.

While we are waiting, I want to call attention to the suggestion made here this afternoon, and a very important one, that one of the things we need to do is to study the men we get for the accounting and cost departments, men who are familiar with the work they will be reporting through their cost records, and men who will have such direct knowledge of the products as will enable them to better deal with the superintendents and foremen who are concerned.

To my mind, the best way of presenting costs to get effects, is to have those to whom the costs are presented interested in the cost results. That has already been pointed out by some of the speakers this afternoon. It is true there are some men who, by compulsion of comparison of cost, or by the criticism that may come from superiors, are now living up to high standards of performance, but the most compelling force comes from having a personal interest in what the cost figures show. If you are going to get a share of the profit resulting from having such vivid cost figures that economies and new methods will follow and result in profit, there will be a persistent and effective interest that I do not believe is obtainable in any other way. We are all on our jobs, to a certain extent, but it is the old, old story of being more interested in your own family than in some other family. You can't be interested in all of the factors that are going on in your business nearly so much as you are in the ones that are immediately affecting your department, and the amount of money that you are going to have at the end of the month or year.

There may be people who think that we can get just as close and good effort by setting up standards, but I can't see the way now to agree with them.

Mr. Torrence is now ready, so we will hear from him, the last one of the firing squad. I take pleasure in introducing Mr. G. A. Torrence, Assistant Treasurer of Eastern Dairies, Inc., Springfield, Mass.

Mr. Torrence then read his paper.

RATING AND BONUS PLAN

G. A. TORRENCE
Eastern Dairies, Inc.

IN a company whose business is that of ice cream and similar dairy products, a rating and bonus plan has been adopted in which is shown each month to the manager of each plant and to the executives of the company, the standing of that plant as compared with every other plant for the same month, and of that plant with its own record in the same month in the previous year. Seventeen "Factors of Efficiency" have been selected as covering operating and management conditions, ranging from the number of units of production per employee to the number of days that accounts receivable are outstanding, embracing directly or indirectly every activity for which the local manager is held responsible. These are set forth in detail on pages 129-130.

In this company there are thirty-seven plants in seven states, some of them manufacturing and some of them acting as receiving and distributing stations. Three classifications have been made so that nineteen of the plants are in Class A, ten in Class B, and eight in Class C. Those in each class are rated competitively with each other, and a stipulated money bonus payable at the end of the fiscal year is assigned to each class.

In establishing the rating in any one of the seventeen factors, the plant making the best showing with respect to that factor is rated one, the next best is rated two, and so on until the poorest performance in Class A, for example, is rated nineteen. Each one of the seventeen factors is similarly treated and after the rating position is established, the number of the rating for the plant in all of the factors is added to arrive at a total point rating. The plant securing the lowest total is rated number one for the month, the next highest number of points gets rating number two, and so on.

In addition, particularly since the business is so highly seasonal, a cumulative average monthly rating sheet is prepared and distributed, and it is interesting and instructive to note how the periods of high production affect the relative standing of the plant in any class.

A fundamental consideration in a plan of this sort must be

that a manager can verify the correctness of his own factor figures, either from reports originating in his office or from the monthly operating statement furnished him from the executive office. Of almost equal fundamental importance is the necessity for the manager thoroughly to understand the monthly operating statement. To cover these two points, an annual conference of the local office managers is held in the executive offices, and at the semi-annual conference of managers and salesmen a half-day session is devoted to going over with managers the determination of the factors in this plan. In addition, an experienced auditor is constantly visiting the managers in their plants, and on occasion managers are called in to the executive offices to cover special situations or circumstances. The comptroller of the company also issues a monthly statement, a letter and a form of tabulation calling attention to trends and commenting at any required length on specific, unusual or untoward causes or results.

This plan was put into operation by this company at the beginning of its current fiscal year on November 1, 1926. Admittedly it is still in the experimental stage and it may be that many of the details of its preparation and application will be changed after one full year's experience. In the six months in which it has been operating, however, it has been enthusiastically received by the managers and by the executives. It has had the effect not only of making every manager strive to obtain a good rating, but has forced the division managers and the entire executive staff to familiarize themselves with every phase of the operating activities as interpreted by the books of account; it has brought into the limelight in some cases conditions peculiar to a given plant which, if favorable, could be brought about in one or more other plants, or, if unfavorable, could be remedied or at least ameliorated; and it has had the very wholesome (and unforeseen) effect of increasing the morale of the accounting department to an unusual degree. Unsuspected ability has been uncovered in some of the managers and in several of the accounting force, and it is the order of the day to think of the effect on the rating before anything of importance is undertaken.

In connection with the rating we also have been successful for the first time in getting managers interested in budgets and in endeavoring to live within them or to reduce them materially. The seldom considered and little understood but exceedingly important

effect of increase in plant investment, and consequent increase in fixed charges, has for the first time begun to be something less than a dark and unfathomable mystery, with a noticeable decrease in demands for authorizations for betterments.

The rating plan as shown here below is being supplemented by graphs which are kept up from month to month and on the cumulative average basis in the comptroller's office, for use in a comparative way in the second year's operation of the plan. It also is planned to rate a manager's effectiveness in the second and following years partially upon an improved performance over the previous year, in addition to this comparison with other plants in the same class. The details of the application of the principle have not as yet been worked out, but the request so to do is from the managers themselves, evincing not only their interest in the plan but their intelligence in appreciating its significance and help.

No effort has been made to apply a plan of this sort to departments within a plant, and it is recognized that there are many difficulties in the way of such an application. Nevertheless, such an application undoubtedly can be made. The factors employed by this company appear so far to meet the situation, but there is nothing in the plan to prevent the elimination of certain ones nor the addition of others, due and very careful consideration always being given to the effect that an improved rating on one factor is bound to have on several of the other factors. In other words, there is no "weighting" employed, thus making for simplification and ready understanding, but it is recognized that the factor covering the percentage of increase in sales has its direct effect on more factors than any other and is the keynote of improvement in relative standing and in net profits.

I believe the seventeen Factors of Efficiency given below are in the main self-explanatory. I will, however, make a brief explanation of a few of them.

FACTORS OF EFFICIENCY:

(1) Gallons made per employee.
(2) Percentage of increase or decrease in dollars and cents of payroll over same period last year.
(3) Physical condition of plant and equipment.
(4) Percentage of error in inventory.
(5) Unit of increase in plant investment per gallon made.

(6) Manufacturing expenses per gallon.
(7) Percentage of increase in sales over last year.
(8) Percentage of cash sales to total sales.
(9) Gallons sold per company-owned refrigerated cabinets.
(10) Number of days' accounts uncollected.
(11) Selling expense per gallon.
(12) Gallons of product delivered per auto truck hour.
(13) Gallons of gasoline used per auto truck hour.
(14) Delivery expense per gallon.
(15) Office expense per gallon.
(16) Net gain per gallon.
(17) Percentage of increase in net gain over last year.

First is the gallons made per employee. In the ice cream business the gallon is the unit that is commonly employed, particularly in the operating end. We don't ask a friendly competitor or neighbor, "How many dollars and cents of sales did you have last year?" but we ask, "How many gallons did you have?" That is the trade term, so that much of this chart is built up on that basis.

The second factor is the percentage of increase or decrease in payroll over the same period last year.

The third is the physical condition of the plant and equipment, which is covered by us with a special "scoring sheet" containing 100 points possible to obtain for a perfect score. The sanitary condition of the plant is of first importance, and we stress that further in this way.

The fourth is the percentage of error in inventory. The fifth is the unit of increase in plant investment per gallon made. The sixth is the manufacturing expenses per gallon, from which we exclude the so-called fixed charges or carrying charges as being largely beyond the local manager's control.

The seventh is the percentage of increase in sales over a similar period last year. Eighth, the percentage of cash sales to total sales, which, in a business like ours, where we are dealing with a large number of not too trustworthy customers, where we depend largely on driver collection, and where we have to pay practically daily for our raw materials, makes it of exceeding importance that our collections are good. We believe that a cash customer is our best customer, anyhow.

Ninth, the gallons sold per company-owned refrigerated cabinet, which is peculiar to this business, but it is a highly important item, because we are being forced rapidly into owning an increased number of costly refrigerated cabinets; they cannot pay out unless the customer is taking a sufficient number of gallons, we getting our return on decreased service cost.

Tenth, the number of days' accounts uncollected, which is our method of expressing the turnover of accounts receivable. The next is the selling expense per gallon; next, the gallons of product delivered per auto truck hour; we keep track of our auto trucking hours rather than mileage. Next is the gallons of gasoline used per auto truck hour. The next is delivery expense per gallon; next, the office expense per gallon; next, the net gain per gallon, which is inclusive of carrying or fixed charges, and of a share of the entire general overhead, so-called, which is distributed to plants on a pro rata gallonage basis. The last is the percentage of increase in net gain over the same period in the preceding year.

This, you will note, is an adaptation, in a way, of the Stevenson trophy plan and of other rating plans, many of them based on abstract qualities, particularly in offices, such as promptness, loyalty, efficiency, initiative and so on. This, however, is the application of operating and financial results in a practical manner which appears to be working successfully.

The amount of the bonus that was set aside by us this year, in lieu of the increase in manager's pay, and which was acceptable to the managers on that basis, from present indications is going to be repaid to us one thousand per cent this first year.

CHAIRMAN: We are ready to hear now from any of our audience here, either questions or illustrations that have arisen in their own experience, that may help to better the presentation of this subject we have been hearing about this afternoon.

J. J. SELLERS, *Virginia Iron, Coal & Coke Co., Roanoke, Va.:* I would like to ask Mr. Torrence how the bonuses are distributed in each plant, on what basis; who get the bonuses.

MR. TORRENCE: In this first year we recognize that the basis on which we have set up the distribution of the bonus is purely arbitrary. I have in my own mind a way in which we will work that out at the end of the year, but for the first year, in order to make a definite plan, we have taken a certain amount of money,

and have arbitrarily said that the man who, at the end of the year with his cumulative average for the year on this rating plan, is No. 1 will get a stipulated amount of money. For instance, if the total bonus that we were to give out were $100 to the nineteen men in Class A, we would say in advance, at the beginning of the year, that the man who finished No. 1 would receive, let us say, $7.50; No. 2 would get $6; and so on down the line.

As I said, I think I know the way in which to calculate that scientifically for the second year, weighting the amount of the bonus by the improvement the man has made in his own plant over the preceding year, as well as in competition with other plants in the same class.

MR. SELLERS: It is just the head of the plant that gets the bonus?

MR. TORRENCE: That was discussed quite thoroughly with the executive committee and with the managers; it was felt that this first year it would be given only to the managers, who understand that the distribution by them to those responsible for helping them make this bonus is pretty largely up to them, although it is expected that they will make that distribution after consulting with the division manager. After we have one full year's operation with the plan we expect to put it on a better basis.

FREDERICK S. CRAIG, *Edward J. Dillon & Co., Kansas City, Mo.:* I would like to know what depreciation rate you use on the refrigerated cabinets.

MR. TORRENCE: We have used a varying rate each year. Last year we used 20%, this year 15%. What we shall do next year depends on the progress of the art and the condition in which we find the cabinets.

CHAIRMAN: Has anyone else anything to say? Of course it may be that the papers presented this afternoon will not give you specific things that you can apply in your own business, but undoubtedly there have been suggestions or thoughts that will give you a chance to make applications, if you have not already done work along this line. Is there anyone else who has anything to say?

L. A. BARON, *Stutz Motor Car Co., Indianapolis, Ind.:* This happens to be my first attendance at one of the conventions; I

haven't been connected with the Association very long. But in my connection with the Association I have repeatedly heard of cost figures referred to as history. In fact, one of the speakers of the session this afternoon referred to them as history. What occurred in this room this morning is history; as yet it isn't ancient history, but it will be next Friday morning when this convention is over. I would like to hear some discussion from some of you men as to what you consider as historical cost data or up-to-date cost data.

Sometimes I think my cost figures are up to date, and when I get to talking to some of the other men I think I am a historian. I would like to have that discussed, as that question was brought up this afternoon and pertains to the value of cost figures. When are cost figures history, and when are they up to date? Will somebody please answer that?

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* It depends a good deal on the industry.

MR. WOLFE: Any distinction between "historical" and "up-to-date" cost data that exists naturally would not be in the cost data themselves, but rather in connection with the time taken in compiling them for presentation, and as to whether or not, when compiled and presented, they were of constructive use in management.

Cost figures are up to date when they are compiled for presentation in time to be used for the purpose for which gathered. This may be daily, weekly, monthly or otherwise.

The term "historical cost data" is used somewhat freely, frequently in a belittling sense, to describe cost results which are compiled in a more or less perfunctory manner principally for the development of cost statistics, as distinct from current, vital, promptly presented data of real use in plant management.

As a matter of fact, cost data at the same time may be both historical and up to date. By the time cost data are compiled they have to some extent become "historical," recording, as they do, events which have occurred and which are past. Equally true, when presented in time to serve a useful purpose in management such information also would be "up to date."

I do not happen to be the speaker who used the term "historical" in referring to cost figures; perhaps the gentleman who did will explain the matter more fully.

H. F. RIKHOFF, *American Manganese Steel Co., Chicago Heights, Ill.:* I might attempt to answer that question from the point of view of our business. We found that cost figures presented after most of the operations were more or less historical. Cost figures that were presented within a day or two after events happened were cost figures that enabled us to control operation.

To cite specific examples: we prepare a payroll report based on quantities in the terms of hours daily. The following day we base it on tons of castings produced. We prepare this report in terms of hours. We divide the total hours in an operating department by the tons handled, to get the hours per ton. We set a standard. We advise the foreman immediately whether his hours per ton are going up or going down.

The same is true of sand. We have a standard quantity of sand used per ton of castings. We reduce our quantities of sand used in terms of boxes. We get boxes per ton daily, and we compare that with the standard to see whether we are going up or down. We take electricity and compare it in terms of kilowatt hours per ton of metal poured. We compare it daily with the standard. On defective castings we get the percentages, and also the percentage of waste metal or scrap metal in terms of spill and heads and cakes. Each day we report the percentage of defective castings and of head cases spilled. We compare that with the standard to see if we are going up or going down. In that way, when we discover inefficiency in any department, we are able to place our finger on it immediately, get in touch with the foreman and do the thing necessary to correct the evil.

CHAIRMAN: There is no question that the closer you can make reports of experiences to the time of their occurrence, the more effective the corrective measures will be that can be applied.

MR. BARON: I think the question is answered. Our engineering department is producing the fastest stock car in America. I can go back to Indianapolis and tell them that the accounting department is going right along with the engineering department.

MR. McNIECE: I used those terms in my discussion, and I do not know whether this question was directed toward my reference or not. In case it was, I would like to make this distinction clear. I didn't attempt in my remarks to classify records in them-

selves as historical or current. What I did attempt to do was to classify their use, not the records themselves. It is perfectly conceivable that we use old records and, as a matter of fact, I have known of cases where we have put records, for example, that were twelve months old, to good and definite use in arriving at conclusions as affecting operations today. Certain of those records cover a period so long since passed that they must be considered as historical transactions.

But the use I was attempting to emphasize of records of last year, last month or yesterday is one which I maintain should be current. Historical records are something that might be published in a volume or put away in a three-ring binder or, if you please, filed for reference purposes only. The point which I attempted to make was that we should use those records currently and accurately no matter how fresh or how old the record in itself may be.

MR. BURKE: Mr. Bullis touched on a most important thing. He said that cost data are good only when building up profits. Mr. Stevenson this morning also brought in the point of ethics, the ethical part of the picture. Personally I don't see where the cost accountant is concerned very much with ethics except the ethics of his profession. It seems to me that business ethics should come under the heading of management.

While it is very nice to hear it said that probably in ten years' time everybody will be managing a business, I think that is getting a little outside the province of the Association. It is good stuff to hear; it makes us all feel much better, but I think we want to stick to the point. The point is that cost data are really only useful in building up profits, and that as far as the ethics are concerned they should be left to the management of the plant. I would like to hear what Mr. Bullis has to say.

CHAIRMAN: I do not know that we ought to bring that in now, Mr. Burke. I don't see that we should avoid the subject of ethics in cost accounting. If someone has a vision and wants to look ahead to what may be ahead of us as cost accountants, more power to them.

Of course, the point is that our everyday work consists in arriving at figures which are accurate and which we may present to management in a way that will help that management to be more intelligent in their operation. There is a certain amount of ethics

in that. I don't want to go into a discussion of that, because I don't feel capable of it. But we must not forget that in the end, all of this effort we are making is simply part of the effort to keep our civilization going ahead as it should. If we incidentally make money in connection with these operations, we are just that much better off.

The point is if there are no profits, there certainly won't be room for ethics. Therefore, I believe, we should concentrate on the technical part of our work, for that is essential, but at the same time should realize our ethical responsibilities as accountants to do the best job we can, leaving to the management the final decisions regarding ethical points raised in the conduct of the business.

MR. BULLIS: It seems to me that either long-time or short-time profit is the ultimate aim of any business. However, to have the maximum profit, either short-time or long-time profit, we must operate the business honestly on a 100% ethical basis. Therefore, I agree with Mr. Stevenson, but I think the main thing is to make the money. But to do that we have to have it on a very ethical basis.

CHAIRMAN: Of course, we as accountants want to feel that we are an important factor, and I believe it has come to the point where accountants are a definite part of management. As we increase our ability to present facts to look ahead, to offer assistance to those in other lines in the operation, the more firmly we will become fixed as a very essential part of management.

The hour has gotten rather late. It is after five o'clock, and Mr. Finney has an announcement to make, so unless there is someone who has a great urge to make some other statement on this subject, we will turn the meeting over to Mr. Finney.

President Finney resumed the chair.

PRESIDENT FINNEY: The speakers this afternoon have furnished you with a pretty full program, and it is to be regretted we haven't more time left for discussion. I think the subject has been intensely interesting, and I would like to suggest that we tender a rising vote of thanks to the men who have participated in this work and have done so well to present this subject to us.

The audience arose and applauded Messrs. Boren, Bass, Wolfe, McNiece, Stiles, Bullis and Torrence.

The meeting then adjourned.

SESSION III

THE PRACTICAL APPLICATION OF STANDARD COSTS

WEDNESDAY MORNING, JUNE 15, 1927

This session was organized under the direction of

H. G. CROCKETT

Scovell, Wellington & Company, New York

CHARLES A. WILLIAMS started work in a railroad shop, studied electrical engineering, and a few years later was engaged on the Pennsylvania tunnel extension into New York City as assistant on the staff of the Engineer of Electrical Traction. Going into industrial work, he studied accounting and allied subjects, and was for several years on the staff of Lybrand, Ross Bros. and Montgomery. He served two years in France as Captain in the A. E. F. Since 1919 he has been Comptroller of the American Safety Razor Corporation. He has contributed a number of articles to the N. A. C. A. official publications.

J. THOMAS OTTO studied accounting at local business colleges and at the University of Cincinnati. For the past twelve years he has been with the Cincinnati Milling Machine Company as bookkeeper, accountant, cost accountant and budget director.

E. H. WILDT was at one time cashier and general accountant for the Monroe Glass Company, Monroe, Mich. Later he held a similar position with the J. B. Moos Company, a branch of the American Tobacco Company in Toledo, Ohio. He then became General Accountant for the Denton Sleeping Garment Mills, and the Centreville Water and Electric Company, both in Centreville, Mich. In 1913 and 1914 he organized and promoted the Lansing Foundry Company, Lansing, Mich. In 1915 he became first City Comptroller of Lansing, a position which he held for several years. The budget and accounting systems which he then installed are still in use. His next position was with the Gier Pressed Steel Company, as Auditor and Assistant Treasurer. When that company was consolidated with others to form the Motor Wheel Corporation, in 1920, Mr. Wildt assumed his present position of Comptroller.

THE PRACTICAL APPLICATION OF STANDARD COSTS

PRESIDENT FINNEY: Your presiding officer is going to refrain from any remarks this morning; our time is a little short.

The subject of the session, "The Practical Application of Standard Costs," is one which you have heard about before. We have discussed many angles of it. This morning we are going to have some new angles, and we really expect, when we get through with the subject, we will have made a tremendous dent in it. The subject undoubtedly is of great interest to all of you. It is going to be very well presented, and I hope you will show your interest by entering into a lively discussion. If you go away lacking information, it will be your own fault.

This session has been organized by Mr. H. G. Crockett of New York, resident partner of the firm of Scovell, Wellington & Company. Mr. Crockett, as you know, was at one time president of the New York Chapter. He is perhaps known to all of you; he needs no introduction. Mr. Crockett will preside at this session, and I leave him in your hands.

Mr. H. G. Crockett took the chair.

CHAIRMAN: A lot of members said to me yesterday, and they said to me this morning, "I am very much interested in your session. I want to hear what you have to say." Well, I personally shall have very little to say during this discussion.

When I was asked to organize this discussion, it took me a long time to decide what kind of a session we ought to have. I have rather pronounced ideas on standard costs, how standards ought to be set, how they ought to be controlled and checked through the books. But standard costs have been written about and talked about, and they have been discussed at length, and I don't believe that I can add anything very much to that. I don't think that all has been said that ought to be said, but I think you have all been pretty much filled up with the theories.

After giving the thing considerable thought I took a chapter

out of Mr. Scovell's book, or rather I might say I followed his lead which I think, as you perhaps know, was always a pretty good one to follow, and I decided that the best thing I could do for this Association, or for the furtherance of the idea of standard costs, would be to try to organize a session at which all sides of it would be presented.

Those of you who have read the bulletin this morning have some idea of how this session has been organized and the trend which it is to take. I know there are some people who do not believe very strongly in standard costs. There are a lot of people who think they do not apply to their particular industry. There are some who believe they have standards, and I know they haven't. I think that is perhaps one of the most important points that I want brought out here today. There are some people who think they use standards when they are using only averages, which are not true standards. There is a vast difference between using a real standard to check your actual costs against and using what is really only an average.

I have speakers to present the subject who represent quite different industries and therefore have vastly different problems. None of them is going into any great detail, but you all know the accounting theory well enough, so that when you get the idea of how it is done in that particular industry, you can apply it to your particular case.

I am sure you will find that if these men can use standards in their plants, or where they work, there will be something that will fit your particular case. Some of these men use standards for material or labor or burden, but not for other elements. I hope out of this everyone of you will get an idea of something you can do with standards in your own particular business.

As you have read in the bulletin, we have at least one speaker who is quite strongly opposed to introducing standards into his cost accounts in any way. That may be all right. I am not taking the position of saying whether it is or not; I am merely acting as organizer of this session and propose to handle the discussion when it comes, without expressing any opinions myself. In other words, you are not going to get a presentation of Scovell, Wellington's idea of standard costs, but rather an opportunity for the expression of your own opinions. I think this discussion or problem is something like the one that once faced an organization known as

the International Hunting Club. This was an organization of big game hunters, with members representing many different countries. They got together in session one time, and decided that their library didn't contain enough information about elephants. Accordingly, they decided to get a number of members to write about elephants.

Five men volunteered: a Russian, a Pole, a German, a Frenchman and an American. When the treatises or books came in, the first one, from the Russian, was entitled "Elephants, Is There Such an Animal?" The next, from the Pole, was called "Elephants and the Polish Question." The German next came along with ten huge volumes entitled "Introduction to a Treatise on Elephants." Then the Frenchman presented a very beautiful little brochure, leather binding, gilt lettering and richly illustrated: "The Amours and Private Life of an Elephant." Then came the American with an article entitled "Bigger and Better Elephants."

I am not inferring that there is any connection between elephants and standard costs, or between these various members of the International Hunting Club and the speakers you are going to hear today, but perhaps if you follow you may see there is some analogy between that little story and the way this subject is presented.

I am not going to spend much time in introducing the speakers. You perhaps notice I haven't gone outside of the Association. I picked men whom you all know, who are active in the Association affairs, particularly in chapter activities. I picked the men who are actually doing the job in their own particular plant, who have first-hand information as to how standard costs are handled, not the president of the company who has only superficial knowledge, and who would not be interesting to listen to anyway.

The first speaker will introduce the subject in a general way and give you his idea of how the executive and the auditor (I mean by auditor the professional auditor) and the production manager look at the whole subject of standard costs. Mr. Charles A. Williams, Comptroller of the American Safety Razor Corporation of Brooklyn, New York.

CHARLES A. WILLIAMS: Mr. Crockett said in the beginning of his talk that there wasn't anything he could add to this general subject. Of course you know he is wrong. When he asked me to do something at this session, I told him that I knew there

wasn't anything I could add to it, and perhaps you will agree that I am right; in any case we will find out.

My position on the subject this morning, or at least my attitude, is rather that of a seeker of information than a giver. I have nothing specific to offer, but I hope that during the discussion something of value will be brought out.

Mr. Williams then read his paper.

SOME PRACTICAL ASPECTS OF STANDARD COSTS

CHARLES A. WILLIAMS
American Safety Razor Corporation

YOU may as well know at the outset that this article is not going to be orthodox. You are not going to be told about the wonders to be wrought by standard costs, that new child in the accounting family; that child that is, after all, so much like other children, neither so good nor so bad but possessing its quota of virtues and faults. You are not going to be told how business in all its ramifications can be controlled by accounts and how standard costs are going to make this control so easy and so simple that the world will at last realize that a perfect set of accounts is the assurance of business success. Rather, I should say, we are going to stand off at a little distance and view this infant prodigy with an open mind and an appraising attitude.

Charts and diagrams are not necessary for this appraisal. You may be glad of that because you will not have to look at charts and diagrams and I am glad because I do not have to make them. This discussion is not to be technical. You know when we are technical and throw out a barrage of charts and diagrams and columns of this and that, the other fellow's views are apt to be throttled and to come through in a hazy sort of fashion.

So we are not going to be technical for the reason that we do not have to be that way to illustrate the thoughts here advanced. It has always been my idea that with enough analysis paper and cross-section paper an accountant can prove almost anything. Without that equipment in this instance I am not going to try to prove anything, and, therefore, no one can say that I did not convince them. So, without endeavoring to prove anything in particular,

let us see what we have here in this subject of standard costs from a practical point of view.

The subject is one which has more elements or component parts than cost subjects which have heretofore presented themselves for solution. So far as I know, and I think you will agree, no one has ever argued against the advisability of having adequate material control, labor control or other self-evident improvements over the primitive order of things, although they have argued mightily about how these things could best be accomplished. The only questions were those of method, the technical ways to accomplish the result. With standard costs, however, we are presented with another element, namely, the element of advisability and extent of application of the idea. It is at this point that the subject broadens its scope and there enter into the discussion other factors than accounting technique. It is this broader aspect that, perhaps, should receive first and most careful attention.

As I have indicated before, it is a fallacy to think that business is controlled through accounting, although there is apparently some justification for that idea when we view the size and cost of the accounting departments in some establishments. Let us assume, then, that we have organized and are conducting a manufacturing business for profit and not for accounting, and further, that we have a department of accounts that is an aid to the management in every modern way up to the point of standard costs. Then, do we want standard costs? If not, why not, and if so, to what extent shall the standard cost idea be applied? These are fundamental questions which we do not find in previous cost problems and which should be answered before we discuss the technical aspect of the problem. Of course, these questions cannot be answered in a general way but must be answered for each specific case at hand. So, I suggest that we take a sort of detached position, forget that we are accountants, lay aside our charts and analysis sheets and, without attempting to answer any questions or to prove any technical points, see what the standard cost idea means.

If, thus far, I have appeared to be somewhat out of sympathy with standard costs, it is only fair that I should correct that impression. I am quite in sympathy with the idea. It means much to industry and to the accounting profession. It marks another step toward the complete interrelation of accounting and business management. It is because of the great importance of the idea, because

of its potential possibilities, that I am inclined to treat it with great respect and to approach its application with a large measure of caution. It is a big subject, worthy of the best effort that can be put into its development. I feel sure that its development will be slow, its discussion long and profound.

There is one very gratifying aspect to discussion about cost accounting. Such discussions are seldom, if ever, futile. It is doubtful if many people have changed their ideas and opinions as a result of engaging in the discussion of morals, religion or similar subjects of very human interest. The result is generally limited to mental exhaustion and a firm conviction that you were right when you started. But when we come to discuss cost accounting, it appears that we generally arrive somewhere, even though the road is long and the detours many. Some few years ago the favorite indoor sport was to talk about Old Man Overhead, known in polite society as Burden. Nobody knew just what to do with him or where to put him. The main idea seemed to be to separate him into as many parts as possible and then to distribute these parts so that nobody could ever find them or identify them again. Well, as a result of debate and discussion, we finally arrived at the point where we ceased to debate and discuss. Something was accomplished. The subject of burden no longer takes first place. It would only seem fair, however, before placing it permanently on the shelf, that someone should tell us how to distribute that pest called "General Factory Expense."

It is with hope and confidence, therefore, that we should enter into our consideration of this new and important question called "Standard Costs." Certainly, we will arrive in due time at solutions of the many perplexing features embodied in this question, and we might even leave a few loose ends here and there for old times' sake. We will arrive, through discussion and debate, by the light of open minds, at our destination; not today, of course, or tomorrow, but in due course and with the aid of experience.

Who are vitally concerned with standard costs?—the cost clerk, the auditor, the accountant, the financial executive and the production executive. These are not mentioned in the order of their importance to the question, to the world or to themselves. Juggle them to please yourself. In any case, let us view the subject from the viewpoint of each of these. To the cost clerk, standards are perhaps a very real annoyance injected for no good reason at all

into a hitherto peaceful existence. Everything was all right before—why start to confuse things? Then the auditor comes around and gets ready to say that the inventories are at cost or market or what have you. He may even be curious about the cost of goods sold—who can tell? I have often wondered why an auditor so warily approaches the cost department, sort of sniffs at it suspiciously and hopes that the telephone may ring and call him to another assignment. If he is able to persuade himself that everything which looks like costs is costs, he moves along to the preparation of his report and carefully refrains from comment therein. When he finds standard costs on the books of account, the auditor has found something that he doubtless wishes was elsewhere. I don't think that an auditor loves standard costs, and I don't see why he should. When he finally does come into the cost department, everything is apt to be just as he suspected—costs are not costs at all, they are standards.

The accountant, however, will doubtless assure the auditor that there is nothing like standard costs—and the auditor will certainly agree on that. To the accountant, the introduction of standard costs is a factor that brings the solution of some old problems even though new problems may be introduced, and where is the accountant who does not welcome new problems?

Standard costs may be applied completely in all phases, or they may be applied in only some phases. Much depends upon local conditions as to the extent of application. It is evident, however, that the accountant through his cost department and general organization can add materially to the value of his services by an intelligent application of standard costs, and I do not think that there is any doubt of the value of standard costs when applied to a business through its accounting department. The wisdom with which they are applied and the extent to which they are used in management will be found to vary in every plant, but this fact does not in any way lessen the potential power they represent for control of costs, production and profits.

The accountant, therefore, has a real interest in standard costs. It seems needless to say that the closest coordination and cooperation must exist between the accountant and the production executive, but the point is very important. Little can be accomplished, from the very nature of the problem, by one department alone. The modern conception of business control is linking up closer and

closer every day the various departments or functional divisions which formerly stood apart and thought that they were not related to each other. In reality, they were not related then, but now it is most essential. The production executive, his subordinates and foremen can profit greatly, if they will, from the modern methods of coordinated activity. What they formerly frowned upon as the bookkeeping end of the business has grown up to be their main dependence for economy and efficiency of operation. Standard costs, with all their technique and intricacies, may be a nuisance to the cost clerk and an annoyance to the auditor, but they are the most modern tool of the accountant and of the production executive and, like any good tool, will produce results when properly applied.

Financial executives perhaps do not view standard costs with the same degree of equanimity as do those who are in close touch with the actual application and functioning of the scheme. There is much to be explained, much to be understood, and perhaps something to be taken for granted. It is generally confusing, often exasperating and sometimes disastrous when a financial executive, after carefully scrutinizing and mentally analyzing a statement of operations, is gently reminded that of course the figures shown are not the actual costs, they are standards. Thus are the gates opened wide for much oration about when costs are not costs, and how do you get these standards and who made them, and who says they are correct standards and what is the actual cost anyhow. Then somebody points to a lot of ratios and percentages and attempts to justify them and to show how wonderfully these ratios control the whole business, and then somebody else innocently remarks that it doesn't really matter what standard you use. By this time your financial executive is absolutely sure he doesn't understand anything about it, is doubtful if you understand it yourself, and is convinced that the whole statement is wrong anyhow. So far as standard costs are concerned, the financial executive and the cost clerk have much in common. They both want simplicity, and it must be admitted that standards do not enhance that result.

The objects to be attained by the use of standard costs are most laudable and need not be explained here, but we should remember that no business should be decorated with a lot of highly complex bookkeeping. Business is organized for profit, and simplicity is a virtue. Every individual situation is different and we cannot generalize about the application of standard costs any more than we

can generalize about other management problems. The function of standard costs is to aid the management in controlling a business without adding an unnecessary dollar to the administrative cost of that business. Likewise, the function of an executive accountant is not fixed but varies according to his local conditions, and he is fulfilling this function and justifying his position when he achieves results by methods in harmony with his environment and the personalities of the management. When he goes beyond this, or tries to, he is adding a burden to the business without the commensurate benefit. His conscience need not bother him when he is constantly doing his best to enhance the profits of the business under the conditions of management peculiar to that business. In other words, a large portion of common sense is needed in the application of the standard cost idea and it is unwise to force the issue without the full sympathy and understanding of the management.

It behooves one to move cautiously. The cost of administration is not always justified, and the cost of cost accounting is nearly always too high. The idea of controlling business through accounts can be given an exaggerated importance. Accounting is, after all, simply an aid to management, and can never be anything other than that. The whole accounting structure should be built on the design of simplicity to give the business the aid that it can use. Standard costs are a part of this aid and as rapidly as the business can use standards they should be introduced.

If I may refer briefly to the business in which I am now engaged, the manufacture and sale of Ever-Ready and Gem Safety Razors, blades, shaving brushes and accessories, I may say that in our plant we use standard costs to a limited extent. Production is credited to the operating departments at standards which are determined by study, observation and experience. Actual costs are completed monthly and the variations between actual and standards are calculated and studied. The dollar value of such variations is carried to the work in process accounts of the several departments and to a special account in the general ledger. On the monthly statement of income and expenses, this account is applied to the cost of goods sold. Raw materials and labor costs are carried through the books at the actual amounts and not standards. Burden is applied at standard rates and the difference between actual burden and the standard is carried to an account for Unabsorbed or Over-absorbed Expense. This account is not applied

to the Statement of Income and Expenses, except at the end of the year, the balance being usually too small to appreciably affect the monthly results.

Auxiliary records are kept in detail to show the actual cost of each item manufactured and of the component parts. Comparisons are made of actual costs with the standards and variations are traced to their cause. The measure of performance is thus applied to the actual result. We endeavor to have the actual costs as accurate as possible by close supervision of the cost work in the shop and by checking and analyzing the results in various ways. The vast number of units produced in a given period would cause a considerable discrepancy to result from variations of actual from standard if the costs were not carefully and accurately determined, and it is necessary to carry many of the cost figures into a number of decimals.

Standard and actual cost records are kept in much detail, all of which is apart from the books of account. The costs thus determined are applied to the finished product and carried to the books of account in the manner described. In some departments we do not use standards because the work is of a special-order character and not a repetitive and continuous process and there would be no advantage in costing such production at standard costs. The actual costs for such work are controlled by careful study and analysis of completed work orders. Local conditions govern the accounting structure not only in the plant as a whole, but in each department.

Simplicity is the rule. We can see no advantage in carrying standard costs for raw materials and for labor into the books of account. This, I know, is done sometimes, but I hazard the guess that in most cases it is unnecessary and unwise. Books of account should be kept free of such things. They are intended as records of events. They are supposed to show what really happened and not what might have happened if things had been different. There is no necessity or justification for doing otherwise. Records which are not a part of the books of account are free from this restraint and it is in such auxiliary records that standard costs belong. And then, too, such auxiliary records have a virtue similar to that of the patented container which was provided with a handle by which it could be thrown away.

These are some of the elementary aspects of the application of

standard costs, some practical points concerning the general question, which it would seem wise to weigh and consider in their relation to a particular plant or business before entering upon the technicalities of installation and operation of any system of standard costs. Indeed, it might be better if they were called "Cost Standards" instead of "Standard Costs." In reality they are standards and not costs; standards against which to measure performance, in part or in total, by departments or for the whole plant, for labor, for materials, for burden, or for all of these; by operations, units or complete assemblies; in any manner and to any degree that seems advisable. Is this an accounting problem or an engineering problem? It is both, hence the emphasis on coordination and cooperation between the accountant and the production manager. Hence the advisability of working out your plan from its very inception with the full knowledge and help of the production and other related departments. It should be the work of many and the glory of no individual.

The future development of standards depends upon the degree of common sense used in the application of the idea, as much as upon the degree of technical skill exercised. How many times have you heard or perhaps overheard accountants communing among themselves about the different systems that have been installed either by them or for them, recalling systems discarded for others equally expensive and perhaps more so? Not always to serve exactly the same purpose, perhaps, but I mean the thrashing around from one man's pet scheme to another, at considerable expense and resultant disorganization. How many of these major upheavals in the accounting and production control structure were the result of poorly designed systems, and how many were the result of immature thought and the disregarding of some of the fundamental factors underlying the practical application of the system to the particular problem?

Today, more than ever before, the accounting executive is required to have sound business sense. True, he may not always be credited with it, but he must have it. He must be in tune with management problems aside from accounting technique and be ready to lay aside his favorite theories sometimes if he is to be a useful piece of business equipment instead of an expensive ornament. His future lies in building the accounting structure so that it fits nicely into the local conditions of management. Therefore, if he

would strengthen his position as an important factor in business administration, he should give constant attention to the practical aspects of standard costs.

PRESIDENT FINNEY: While Mr. Williams was speaking there was a man who quietly sneaked into the back of the room, and I am going to ask him to come up here and sit alongside of me, so that you can all see him. He is a man that we all love very much, a former president of this Association, Mr. J. P. Jordan.

Would you like to say something to the boys?

J. P. JORDAN: Will I say what I said to you?

PRESIDENT FINNEY: Yes.

MR. JORDAN: I will change the word and say that he is a darned sneak. I am only here between trains. I came here at eight o'clock your time, and I am going out on the Century, but I couldn't fail to stop here and see how you all look, and you look fine. I understand there is the biggest registration the Association has ever had. That is a perfectly wonderful thing, and I congratulate you men in Chicago. You have come through just as we thought you would come through. You men from outside of Chicago evidently know a good thing. I have learned a lot from Lindbergh. I thank you.

PRESIDENT FINNEY: We just want to let you know, J. P., you can't sneak one over on the old N. A. C. A.

CHAIRMAN: We have a few minutes for discussion, and we want to make it snappy. We have two more papers, and the discussion is going to follow each paper. In spite of the fact that Mr. Williams introduced a number of witty remarks and comments into his paper he really knows his subject, and I hope some of you will get up on your feet and ask him some questions.

H. W. MAYNARD, *Gillette Safety Razor Co., Boston, Mass.:* Mr. Williams has said that he doesn't believe in carrying inventory at standard costs if they are correctly set, doesn't think it necessary or desirable. I wonder if he would go a little farther and say why he doesn't believe in it, and why it isn't desirable.

MR. WILLIAMS: What I said was that I do not believe in carrying into the books of account a lot of detail and decoration or, as Doc McLeod would say, "French pastry," that can be kept

on the side. I absolutely believe in standards, but I believe you can unnecessarily spread them all over your books.

You see, the way I believe in standards is not as standard costs but as cost standards; standards against which to measure the actual performance. When you get into the realm of bookkeeping you can put anything in the books that you want, and you will find most everything in some books. But simplicity is the aim that we have, so that we can some day grow as big as the Gillette Safety Razor Corporation.

MR. MAYNARD: You haven't quite gotten my thought. I will state my stand on this thing. There are three factors involved in the problem: first, to satisfy the financial accounting, the financial requirements that the financial statement shall present properly the condition of the company; second, that the cost control shall be adequate. That is the thing which interests us especially. There is a third very elusive factor—that the requirements of the Internal Revenue Commission shall be met. That is a thing which is rather difficult to get hold of.

I wrote a month or so ago to the Commissioner and asked for a statement of the Commission's policy regarding standard costs. I have had no answer as yet, but I hope to get one. The cost control is the fundamental thing and the most important; and my thought is that if we are going to set the standards properly and carry into inventory, into the books of account, into work in process, only standard costs, where we can determine them accurately, and say that everything else is extraneous thereto, write them off the books, eliminate from our books inefficiency, waste, idleness—we will get a better control, and yet will not sacrifice the financial side to any important extent.

MR. WILLIAMS: I think that is right. I think we both agree, but we haven't expressed ourselves in the same way. When I say I don't believe in putting standard costs into the books of account, it is a little bit hard to explain, unless I take a long time. I mean to say that if you set up standards of material, for instance, steel and so on, and standard labor costs, and run these through from the beginning into your books, you are doing a lot of unnecessary work and are gumming up the books so that they don't show what actually happens. But you should set your standard and relieve your work in process accounts at that standard. That is your

standard, and you try to have your actual meet that standard, because that is your aiming point. If it doesn't meet it—which of course it doesn't at any time—you try to get it as close as possible, and then the variations must be adjusted. That is the whole problem.

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* Do you carry the inventory at actual?

MR. WILLIAMS: That is standard.

MR. BURKE: Raw materials?

MR. WILLIAMS: The inventory is finished product.

MR. BURKE: Finished product at standard, and the raw material at cost?

MR. WILLIAMS: Yes.

MR. BURKE: Do you carry your raw material at standard?

MR. MAYNARD: We carry the inventory at actual costs; the purchasing and manufacturing varies.

MR. WILLIAMS: That is where you and I differ.

F. L. SWEETSER, *Dutchess Mfg. Company, Poughkeepsie, N. Y.:* Did I understand you to make the statement that you adjusted your cost of sale by your variation? Did I not understand you to say that?

MR. WILLIAMS: Yes.

MR. SWEETSER: I think if you will explain that, that is the crux of the problem.

MR. WILLIAMS: It is already explained.

T. B. DUNN, *Kansas City Structural Steel Co., Kansas City, Mo.:* I think you said standards were not kept for special orders. Do you think that standards would not apply to special orders? In our business we don't have standards but we have estimates which we compare against the actual costs. I was interested in that question of whether you found it wasn't necessary, or could not apply standards to special orders.

MR. WILLIAMS: Of course, I suppose everybody has estimates, but you would hardly call those standards. For instance, to be a little more specific, you know that we make safety razors

and blades, and we make them by the millions. We set a standard. We know how much it should cost us under normal operating conditions to make each item of that kind. We make other things besides safety razors and blades, which I won't go into detail to describe, which have nothing whatever to do with shaving. All of those come through as specials, different lengths, sizes, weights and all that, and there are seldom two alike. These are special orders. There are parts of those special orders which are alike. In that respect we do establish an aiming point, in other words, a cost standard. But I would say, it is true that we have no standard costs in that end of our business, because they wouldn't serve any particularly useful purpose.

MR. DUNN: Mr. Williams, in your talk you mentioned that on special jobs you did not apply standard costs. Do you mean by that, you could not use standard costs or do you think that it isn't necessary. I can readily see where the same article is being manufactured all the time, it would be very easy to have a standard cost. However, where we have a special job all the time, no two jobs alike as is the case with our product, it seems to me that a standard cost, as you have outlined, would not apply. In fact, I believe we are using standard costs when we use actual costs and show comparisons with our estimate costs. I would like to hear from others as to how they apply or would apply standard costs where no two jobs are alike.

MR. WILLIAMS: Somebody else will have to tell you that.

MR. SWEETSER: If Mr. Stevenson were in the room, and he and I had a debate in front of you, some of you would understand more about the point that is being stressed here. I think it is the most important point in standard cost accounting. It is the question of whether you are going to carry the finished work through your books at standard costs, or on your balance sheet at actual costs. That is what you are discussing, and, Mr. Chairman, I think it is a very important point.

G. A. TORRENCE, *Eastern Dairies, Inc., Springfield, Mass.:* It seems to me in getting into a seasonal business such as the manufacture of straw hats, games and toys, ice, ice cream and other things of that sort, to use standard costs is very advantageous, because you have to take the year as a unit instead of a week, month

or any other period of time. That being the case you have to take your standards into your books, and you have to price your inventory at standards. Otherwise your monthly balance sheets will reflect inventory values that in periods of great production are ridiculously low, and at low production are ridiculously high.

It actually works out in seasonal businesses that if an inventory is valued at actual cost in months of low production it will appear on the balance sheet at maybe ten or even twenty times the sales value. In periods of high production you will find your inventory values, on a basis of the actual costs of that month or period, are ridiculously low. Whether that applies with equal force to a business that runs more or less evenly through the year, I am not sure, but with a seasonal business I am very sure that you get distorted figures on your balance sheet and operating statements if you do not take your standards into your books, and price the inventories at those standards, whether they are applied to material, labor or burden, or all three.

MR. WILLIAMS: You are referring to inventories of finished products?

MR. TORRENCE: Yes, or work in process.

MR. WILLIAMS: Raw material as well?

MR. TORRENCE: Ordinarily raw materials take care of themselves.

MR. WILLIAMS: Mr. Maynard said he put his inventory of raw material into his book account.

MR. MAYNARD: Where the raw materials go into work in process we put it in at actual.

MR. WILLIAMS: You believe the inventory should be priced at standard costs for finished goods and work in process, and also that your raw material should be taken in at actual cost—the raw material before you work on it at all?

MR. TORRENCE: That might be a matter of preference, depending upon the business. I am not prepared to take a firm stand. If we were referring to a specific business I would know, but I wouldn't want to make a general statement. I am pointing out the effect on inventory values of work in process and finished goods in a highly seasonal business.

MR. WILLIAMS: I don't suppose it makes any difference whether the business is seasonal or not.

H. W. FORD, *Irving Pitt Mfg. Co., Kansas City, Mo.:* We find it to our advantage to measure raw material inventories as well as finished parts, by the "Cost Standard." Some of our assemblies have upward of thirty raw materials represented in them and it seems to us to be a hopeless task to attempt to carry the purchase price of each lot through all sub-assemblies and processes to the finished goods without such a standard.

MR. WILLIAMS: You average the cost of the various lots of the same material which are bought at different prices. Is that what you mean?

MR. FORD: We "standardize" each one separately as it goes into raw stores, showing our variations in purchase price as such, and then draw them out of stores at the same "standardized" price. We had to do it, because we have so many parts to each assembly and so many raw materials; seventy-odd special sorts in steel alone, besides the leathers, canvasses, brass and so on.

MR. WILLIAMS: Why not have the cost of the different lots?

MR. FORD: We feel that we cannot afford the time and effort, even granting it were possible, and again, the lots are very uneven in size.

MR. WILLIAMS: You may have a problem that requires a different kind of treatment. As I said before, I don't believe you can generalize too much on this thing. You have to take each problem by itself.

J. J. MELFI, *Empire Silk Co., Paterson, N. J.:* I think we had a concrete example of standard and actual given to us by the hotel man. In his request for accountants who would be present at group luncheons he secured a standard of 112. In turn he notified his working staff who made preparations on that standard. The actual was 100% greater. This, of course, is a gross exaggeration, but if we were to take an inventory on the basis of the standard 112 instead of actual 225, we certainly would carry incorrect values so far as the profit and loss and balance sheet are concerned.

Perhaps a specific case based on personal experience will give

a clearer view of my thought. Standards were set by the estimating department on dyeing $2.50 per pound. A cost analysis revealed actual cost of $1.75 per pound. Physical inventory of merchandise dyed amounted to 25,000 pounds.

If we had taken inventory at standard $2.50 per pound instead of actual cost $1.75 per pound, our inventory would be inflated $.75 per pound, or $18,750.

An advocate of standard costs actually used standard as basis of inventory and our profits were overstated.

I do not question the merits of standard costs as I heartily believe in advantages of use of standards for operating, but I do believe that actual cost should be used as basis for computing an inventory.

MR. WILLIAMS: What do you do with the difference?

MR. MELFI: The difference shows up in profit and loss.

MR. WILLIAMS: What do you do with it?

MR. MELFI: I forget the difference; I take the actual cost.

MR. WILLIAMS: If your standards and actuals are at such wide variance, you have something to contend with. I take it they are averages from what you say. Are they standards or averages?

MR. MELFI: They are supposed to be standards; they are used as standards, because the cost is figured on that basis.

MR. WILLIAMS: In reality I expect they are an average of various costs for doing the same thing, aren't they? At times it costs more, and you just strike an average.

MR. MELFI: Only a cost analysis will reveal that.

MR. WILLIAMS: That is how you get your standards. I don't think those are standard costs, if you will pardon the expression; I really don't. They are averages of what happens. They are not standard costs.

CHAIRMAN: Let me clarify the subject a little bit. We are talking about standards. We are thinking of a goal to shoot at. I don't mean setting an impossible standard, but a standard based on careful scientific studies of the material requirements, labor possibilities and a budget of burden. When you set a standard

based on a foundation like that, I don't believe you can ever have a condition where a standard was $2.50 and an actual was $1.50 or some such figure as that. When you have that condition you haven't got real standards. I just wanted to clarify the discussion. That is the way all of these speakers have thought of standards. I am afraid we will have to stop the discussion on this paper, because we have two others this morning, and two others this afternoon, and you will have plenty of time for discussion. In fact, some of the other papers will bring out some of these points you are bringing up right now. I hate to stop the discussion, but we want to get a chance to get all the others in.

I suggest it would be a good idea to make notes as you go along of the points that are brought out, and if you don't get a chance to ask the question immediately following that paper, you will get a chance later in the day.

The next paper is going to be quite different from the one Mr. Williams has presented. In the first place the business is quite different, that of the Cincinnati Milling Machine Company. Probably you all know what milling machines are and all about them. The company also makes some other types of machines, grinding machines and so forth. I don't want to say anything that Mr. Otto is going to say, but I don't believe he is going to cover these points. His company has not yet gone to the extent that some others have in material and labor standards. They have them established, and they are very carefully and scientifically established, but they haven't been introduced into their accounts. They believe in it and eventually are going to do it. I want to give a little picture of how they got started, because I was closely connected with it, and it is rather an interesting story.

Some years ago, immediately after the depression that followed the war, or rather at the time when the machine tool business was in a very bad state, that company decided that it was time to clean house, and they established a number of committees made up of various foremen and department heads in the shop. They made a very thorough study of every part of their business.

I don't think I ever knew of any concern by themselves making so complete a survey and so exhaustive a study of every part of their business as that company did. It took them about a year. They held a good many committee meetings and brought up a great many different subjects and problems. "Here is what we are do-

ing, and here is what we ought to do, and if we are going to do it, it is going to cost so much, and the results are going to be such."

They finally came to the point where every problem worked down to this question: "We want to know how much it is going to cost us to undertake all of these different things." They decided that one of the most important things to do was to get their cost system, or rather I should say the expense distribution or budget plan working so they would be sure they had some real information as to what it actually did cost them to do various things.

They took the position that competition to a very large extent determines selling price anyway, and they couldn't know their costs until they knew the cost of all operations and all functions; therefore, the important thing to do was to get those expenses and costs down to the lowest possible point. They started with the idea, "The first thing we have to do is set up a real budget of expense for our business." They started with establishing a normal burden; and went into the problem of distributing expense very elaborately. Some of you would think they were splitting hairs, but I think you will find out, after you have listened to Mr. Otto's paper, they have done the work and made it pay.

It has been Mr. Otto's job to sit in, or be actively engaged in helping work out the normal burden and establishing and translating that into a real live budget, and seeing that the expenses are kept within that budget. I suppose if I should ask for a count here of how many of you have a normal burden, pretty nearly all of you would raise your hands. A good many of you think of that as a budget; of course, it actually isn't, and a lot of you could take that step of your own initiative if you wanted to.

I think you will get from Mr. Otto's paper some real live dope, as we might say, as to just how it can be done. You might say that isn't standard costs. It isn't standard costs, but it is a foundation that must be laid before you can even start on the standard costs. You have an engineering department to determine standards of material, and you may have a time study department to determine real standards of labor. Here we have a man in the cost department working with a normal burden to establish a real budget of expense and make it work.

Mr. Otto is with the Cincinnati Milling Machine Company of Cincinnati, Ohio.

J. THOMAS OTTO: Down home we have a dog pound. Not long ago they decided that the Irishman who was running it would have to take a civil service examination before he could continue to hold that job. The civil service examiners felt that everybody should know about rabies, and they put a question in the examination something like this: "What are rabies, and what would you do for them?" The Irishman in answering the question said, "Rabies are Jewish priests, and I wouldn't do a damned thing for them."

I am afraid that you feel that standard costs are Jewish priests and you wouldn't do a damned thing with them.

Mr. Otto then read his paper.

THE PRACTICAL APPLICATION OF STANDARD COSTS

J. THOMAS OTTO
Cincinnati Milling Machine Company

MY talk today will be based on my experience and work with the Cincinnati Milling Machine Company. As perhaps you know, we manufacture machine tools and more particularly, milling machines and tool and cutter grinders.

I shall touch only lightly on the subject of standard material and standard labor, confining myself mainly to standard burden. I shall endeavor to show you that cost accounting is not merely a clerical effort that produces historical facts. I hope to prove to you that our foremen and superintendents are interested and want to know about standard burden, its application and its relation to the budget.

Standard material, its use and cost are largely a matter of engineering department control. The engineering department designs and specifies the quality, size and make of all materials entering into our product, so the costing of these materials is a matter of clerical effort. Though we do not keep any record of variances between actual and standard, we hope to come to this very soon.

Standard labor is slightly more complicated. Our time study department sets time on all productive jobs and the workmen naturally are anxious to make the standard time set or to better

it in order to increase their earnings. Each time card shows the standard time allowed and the actual time taken; from these cards we make up each week an efficiency report by departments and by workmen, showing the actual time taken on all jobs and the standard time allowed. A copy is sent to the superintendent and another copy posted at each timekeeper's desk for the information of the workmen. The variance between the time allowed and actual time taken is not recorded on our books; it does, however, show on our comparative cost sheet as an increase or decrease over previous lots manufactured.

No phase of cost accounting has interested executives and accountants more than the application of burden to cost. The use of a standard burden rate has done much to take the guess work and false ideas out of this part of cost accounting. Application of expense to cost through the use of standard burden rate is the best means of including this item of expense in costs because:

It affords a practical means of measuring this element of cost.

It provides a means of predetermining the cost of any part or product to be manufactured.

It is an equitable method and its function is to serve as a check on the operation of the plant by the management.

In calculating a standard burden for our plant the first consideration was: "What will be the normal number of hours this plant will operate?" A study of past performance and of what we desired to attain in the future gave us this figure. Following this we established the allowable standard expense for fixed charges, indirect labor, supplies, power, etc., for each department. The total amount of this standard expense divided by the standard hours for a particular department produced a standard burden rate for the department or group of machines in a department. The usual journal entries covering the allocation of service department cost to production centers were made and the standard burden was completed.

The next and most interesting step was that of compiling actual expenses in comparison with the standard set up. The difference between the standard burden and the actual expense gave us our over-or-under earned burden. The only thing to do now, in order to determine the cost of a part, is to find the number of hours that

part has been in operation in each department; multiply these hours by the respective burden rate; add material and labor incurred; stir thoroughly and apply to the customer in liberal applications.

The objects of our standard burden system were two. The first was to supply a means of applying burden equitably to product manufactured. This was accomplished by doing away with the old method of applying a flat rate for the entire shop, and replacing it with standard burden rates that gave us an actual cost of our product. Surely a part or casting requiring the use of a large planer worth, say, $20,000, with an attendant large expense in power and tools, should assume a larger rate per hour than a part requiring the use of a small manufacturing miller worth probably $1,500.

The second object was to supply the management with a picture of the results of the operation of the plant. This was accomplished by means of a report for the month. We tie the budget in with this report. The first column shows the department number and name; the second column shows the standard burden for each department; the third column, "Budget," is the amount set up in the budget as available for the particular month. By the way of explanation, let me say that our budget is based on the figures set up in our burden plan. The figures set up in our standard burden system for the elements of expense were so nearly correct that we used them as a basis in forecasting the following year's budget. The column "Actual Expense" covers the actual expenses incurred by each department. The variance column represents the difference between the budget and the actual expenses. The report shows an over-earned burden, due to the fact that production was above normal and shop executives and foremen were keeping a tight rein on expenses. The last column shows the variance between the standard allowed and the actual expenses.

The establishment of standard burden and budget systems in our plant produced at once a system of responsibility. During the first year a great deal of my time was spent in selling the executives and foremen the idea that this was a means of operating their departments efficiently. A department in our plant is a business in itself, and in order to operate it a foreman must know what it costs for each element of expense and how much he can spend in order to produce our product at a minimum cost. This creates

responsibility and, as a result, Bill McGarry in the lathe department asks that we show him why his repairs are so much higher than the standard. The facts in this case are that Bill was told to watch his expenses and cut them down: not knowing what it cost, he ordered a pump for a machine repaired in our own shop at a cost of $65, when a new pump could have been bought for $18.

Four different departments using the blue-print department complained because the cost of blue-printing seemed excessive. I suggested that they eliminate some of the work they deemed unnecessary. They were unable to agree as individuals, so we called them together for a meeting and they were told to thrash this matter out and reduce this expense. Being face to face nobody was able to pass the buck—result, $200 per month reduction in the expense of this department.

I am citing actual cases of what we have been able to do. I am not interested greatly in the theory of anything unless I can apply it practically. When you can apply it practically it doesn't become theory.

A certain department head was advised to check over his expenses, particularly the cost of clerk hire. His reply was: "My department is operating very cheaply and those clerks over there, while they are doing some work for me, should be charged to Tom Smith's department." Upon being told that they would be charged to him, he decided to dispense with them. Result: $2,600 per year saved; work performed more efficiently and supervisor relieved of considerable care and work.

All purchases of material, payroll and purchases of expense items pass across my desk for approval as to the account or department to be charged. This results in two things; first, a uniformity in the allocation of charges to the various departments or stores accounts; second, greater care in purchasing, because of the knowledge that each item or purchase is being inspected or passed on as to its cost and use. The management has given me the right to question any purchase or expenditure that appears to me out of reason or excessive in price or quantity, and when necessary the management sees to it that I receive a reply either verbal or written.

Our company uses a green Hollerith card for all non-productive labor; including, of course, idle time. This idle time appears as a charge against the department incurring this expense, and the fore-

men do not like to have it shown on their burden and budget report. The foremen's complaint is that he was notified too late to correct this idle time charge. Idle time charges are the result of a producer waiting on material, waiting on electrician, waiting on foreman and waiting on tools. In order to cut this idle time to the minimum we have installed on each timekeeper's desk a green light at a height of about 5 feet. Whenever a producer rings in on an idle time ticket, the green light is turned on and is visible throughout the department and for a distance of 300 feet. The foreman, superintendent or any executive passing by and noting the green light is required to stop and ascertain the cause, and take steps to correct it at once. Result: I had to wait four days to see one of these green lights turned on and then it was only for a short time. The idle time has been reduced 80%.

In fact, when I stepped into the hotel and noticed the green lights in the hall upstairs, I could hardly control myself. I felt I had to find out what was the trouble, and that habit sticks with me. I stepped out last night and almost asked the floor clerk who was idling. There were quite a few who were not.

Each month a report is made to the superintendent and foremen showing the standard burden and budget allowed and the actual expenses, and the cost department has a busy time explaining to Bill Smith or Tom Jones why he used so many supplies or the reason his indirect labor was higher than the standard. Burden and budget reports are made out for every department in our plant, including the sales and administrative. I believe that a cost accountant or any other accountant should deal with each executive or foreman in the plant and give the man in charge of a department information in a form that he will understand. When you are talking to a foreman, don't tell him that his burden is high. Speak the language of the man you are dealing with; leave your white collar in the office; wear a suit of clothes that will permit you to sit down on his greasy stool without shuddering; lean on his desk even if your hands do get dirty; get the viewpoint of the man in the shop who originates the expense and is the one fellow who can control it. Advertise the information you have in your accounting department; let the other fellow know what it costs to repair or overhaul a machine. If you have an idea or suggestion, pass it on to the other fellow in such a way that he will

think it is his own and put it into effect at once—otherwise it may take you three months to get it started.

CHAIRMAN: We have some time for discussion. Let's make it quick and snappy.

BERNARD A. BRODY, *Philip Ruxton, Inc., New York City:* I would like to ask Mr. Otto to explain how he translates his normal burden figures of the budget.

MR. OTTO: How we translate our normal burden figures into the budget? We establish a standard number of hours in our normal burden. If we are going to increase those hours in our actual practice this year, we will have to make an allowance for the budget. We translate whatever we made in the normal burden accounts into the actual budget by increasing it to the extent of the number of hours we are going to operate, either greater or lesser than our standard. Does that answer your question?

CHAIRMAN: Will you tell them in a little more detail, Mr. Otto? You have a normal burden, and we will say your plant is not going to operate this year, and you are quite sure it won't operate at normal capacity. You have to take each item of expense and set up what you think is a reasonable budget for the operation you expect out of each department.

That is the question you had in mind?

MR. BRODY: Yes.

CHAIRMAN: I think that is the most important part of the work Mr. Otto has been doing. First he has the very thoroughly analyzed normal burden and actual burden, and on the basis of that analysis has determined what is a fair budget for the capacity or the rate of operation they expect this year, next year or any given time. Do you want to go into that in a little detail?

MR. OTTO: We take each item of expense in our standard burden. For instance, let us take a department, we will call it Department 10, which might be the lathe department. We take the number of supervisors, foremen, assistant foremen, laborers, truckers, tool boys. That has been set up in our standards. We are getting to the budget for this year which may be entirely different from our standard. We immediately translate that in the same fashion into our budget this year. We set down the number of

supervisors, tool boys and so on, and compare item for item with our standard.

We take the supplies. We know that during the normal year we have used so many supplies per man. Therefore, in creating the budget this year we will have to produce just that amount of supplies for all the men we are going to have, over or under the standard burden set up. It is the same way with small tools. Our power is based on the number of hours that we run. It cost us $100 last year, and we are going to increase our schedule 25% this year. We will have to allow approximately that much of an increase for the power cost. We take each item and go right straight through the line, comparing it with our standard, and when we come to a year that goes back to our standard number of hours, we will probably be relieved of a lot of detail, because we will simply take our standard and use that as the budget for that year.

CHAIRMAN: The only trouble with Mr. Otto is he is too modest. He doesn't take all expenses or arbitrarily divide them into fixed and variable and say, "We are going to operate at 75% of normal this year, so we will fix our budget at 75% of normal." He takes each individual item. The important thing is he goes down and talks to each foreman of each department about each individual item and says, "Your actual expenses were this. We have determined pretty carefully that if we were operating at full, they ought to be about this. We are going to operate so much next year. What can we do?" That is how he cut down the blue-print expense, simply by getting down to the foreman and saying, "How much do you think it ought to cost you for blueprints this year?"

The foreman may come back and say, "You are all wet in charging me with that much." That starts an argument and produces results. That is the main thing I want to get over; I want you to get it. He has made this a very live problem by getting the foreman to work on this thing, and I don't believe he stressed it quite enough.

If you are going to make effective use of burden standards, they are the men who have to do it. There is no use of setting a standard if nobody makes an effort to live up to it. He has done that very, very effectively.

MR. MELFI: I would like to know what the percentage of overhead is to your total product.

MR. OTTO: I will tell you frankly I don't know.

MR. MELFI: It seems to me that it is a very important question. I have found in my own particular case that overhead figures about 15 to 20%. It doesn't seem fair to concentrate on 15 to 20% of cost which represents overhead, whereas you ignore material and productive labor, representing 80 to 85% of cost. That is why to me the proportion of overhead total cost is quite important to know.

CHAIRMAN: Probably it is very much more than that. It may be 50 or 60% of the total cost. That is one reason why this company concentrated on burden first. Material is a comparatively unimportant item in machine tool costs, and even though it may be important, it isn't a thing you can do very much with. It is steel castings, bar stock and so forth, and there isn't much you can do to cut it down except to cut down waste. They feel that their inspection does that. But burden was the big item over which they had no control until they started this scheme, and they said, "We are not going to worry much about complete standard costs in our accounts until we have gotten a thoroughly scientific or accurate foundation of a standard burden."

NELSON C. HALL, *Nelson C. Hall, Milwaukee, Wis.:* May I ask just a question? In the case where you saved about 80% of your idle time, was there any check-up to see when this time was transferred from idle time to productive labor, whether there was an increase in production, or whether it merely amounted to the fact the workman switched the time on the card from idle to productive labor?

MR. OTTO: There is an increase in productive time because the man was standing idle. Let me paint that picture for you again; I don't believe I got it across.

Here is a lathe down in the shop. A man gets an order from a foreman to go ahead on a certain job, and the foreman walks away, probably goes to another section of the plant. Unfortunately the man may not clearly understand what tools are required by him, or he may not have all of the tools there to work with. He has a certain allowable time to do the job in, let us

say, two hours. So long as his time is turned in on the job, it is cutting down the actual time he can do the job in. If he loses, and it takes him three hours, he receives no premium, or he doesn't receive any bonus. He doesn't want to lose on that, and then the only other means of getting that foreman on the job right away is to go to the timekeeper, ring in on a green ticket and say, "I am idle; I am waiting on the foreman." The foreman may not show up for an hour, maybe it will be two hours. He may be tied up, or thinks he is tied up somewhere, and this man is still standing there.

At the end of the month we had a total amount of idle time chargeable on account of foremen or on account of small tools. By that time the story was dead. We went down and asked the foreman, "Where were you?"

"I don't know. I guess I was busy; I always am."

Most foremen are busy, and I think most executives are. So we installed the green light, and now when that man goes on a green ticket, which is idle time, and he is waiting on the foreman, everybody knows about it, because the light is just like the beacon out on Lake Michigan. The result was that the word is passed along through the grapevine telegraph, "You have an idle man in the shop; you had better get back in your department and fix it up, so they will turn the light out before the boss gets around."

MR. HALL: I think that is a perfect answer to my question and dissolves the doubt I had in mind. You automatically take care of the shifting from idle to productive through the paying of the premium.

MR. OTTO: No one is permitted to turn the green light out except the timekeeper.

G. P. EXTROM, *Gisholt Machine Co., Madison, Wis.:* I would like to inquire of Mr. Otto on what basis he determines or predetermines the sales for the following year. Machine tools are subject to more fluctuation than any other line. That is my line.

MR. OTTO: I depend a great deal on the sales department. They itemize it by lines and products and styles of machine, both foreign and domestic, and they give me an estimate at the beginning of the year of what they expect to do during the year. They live up to their quota very conscientiously.

MR. BURKE: That is itemized by grades?

MR. OTTO: By styles and products, various kinds of products. We have two or three different lines.

L. A. BARON, *Stutz Motor Car Co., Indianapolis, Ind.:* As I understand, the budget covers supplies as well as time. You give your foreman credit for the saving on supplies, if the purchasing department buys them cheaper? For instance, the foreman will take 100 pounds of wiping rags per month; you base your budget on 10 cents per pound. If the purchasing department is fortunate enough to buy them at 7½ or 8 cents, there is a saving of 2½ or 2 cents.

We use a lot of gasoline for cleaning purposes. Every part of the car is cleaned. Gasoline is continually fluctuating in price, sometimes as much as 3 cents a gallon. We use several hundred gallons of gasoline a day throughout the shop for cleaning purposes. Do you give the foremen credit for the saving, when the price goes down? They may have used 5 gallons more gasoline than they should have used. Nevertheless in dollars and cents they would show a saving in the department. I would like to have an expression on that.

MR. OTTO: If I want to live, I will give the foreman credit for everything that he saves. If I don't, he will be on my hip. If he finds any way at all of reducing his expenses, and I don't give him credit for it, the whole outfit knows about it.

MR. BARON: For units of measure instead of dollars and cents.

MR. OTTO: I am speaking of expenses right now. We only charge him with the actual cost. We reclaim the gasoline, that is refine it again, redistill it, and we charge the actual cost of redistilling, not what the original gasoline cost us. The original price of gasoline may have been 24 cents, and to redistill it would probably cost 10 cents. If he is buying redistilled gasoline, he is only going to pay 10 cents for it.

H. E. HERTING, *Barber Greene Co., Aurora, Ill.:* I may be able to show where we make use of standard material costs at this point; that is, we use the standard material cost of supplies as well as for any other material item; thus, the foreman of the department does not make any gain on any purchases, because with

the reduction in purchase price, the purchasing department gets the benefit through the statement which shows the gain on purchases for that month.

THOMAS B. FRANK, *The Cincinnati Planer Co., Cincinnati, Ohio:* I would like to know how far ahead you set your budget, and whether you revise it when there are indications in the air that business is going to increase or decrease.

MR. OTTO: We set our budget for a year in advance, and if business conditions change to the extent that our sales either drop or increase, we accordingly change the budget and give the foremen an increased allowance or decreased allowance, whichever way the trend is.

THOMAS W. OTT, *Monroe Calculating Machine Co., Orange, N. J.:* Have you reduced your expense budget to a production unit of expense in order to control differences from scheduled production caused by varying labor efficiencies?

As an example: If your schedule of standard hours of production for a department is 100 and your budget allowance for expense is $100, have you reduced this to the budget unit of $1 for each standard hour of output?

Also, have you provided any monetary incentive for the foremen to meet the expense budget?

MR. OTTO: We have not reduced it to a unit. So far as the incentive plan is concerned, we do not provide any monetary reward to the foreman for meeting the budget or for beating it.

CHAIRMAN: Let me suggest this thought: While they haven't reduced their budget to a unit, as the gentleman suggests, they have done this, which I think accomplishes about the same result: when the sales department have established or determined on their quota of sales, which Mr. Otto doesn't work on in detail, of course, that is taken up with the shop superintendent. They have determined or budgeted it on that basis. "We have got to have so much direct labor in each department."

Then with the foreman having that picture in his mind, Mr. Otto comes along and says, "You are going to have so many men, and they have to work so many hours in order to produce this number of machines. How much indirect labor have you got to

have, and how much supplies, and how much power and what are your repairs going to be?"

Of course, he brings to the foremen carefully analyzed statements of what the expenses were for the items for the past year, when they had so many men, and also statements based on a rather careful study showing what these items should be if they were running at normal. So he can show the rate of increase or decrease of any one of these items for a given number of men. Then they determine in dollars and cents, or aggregates, "That is a fair budget for me to work on on this particular item. I am going to try to live up to it."

It isn't reduced to a cost per unit because in the Cincinnati Milling Machine Company, at least, I don't know what the unit would be unless you took the unit hour. As a matter of fact it amounts to a unit hour, although it isn't expressed in those terms. Everything is reduced to terms of what it will take to turn out this amount of product. "We have got to have so many men in this department working this number of hours every day or every week or every month. On that basis we estimate it is going to use up so much supplies and so much power and so much this, that and the other thing."

I think we will have to curtail discussion on this paper now, and go to the next one.

The next speaker will present a very brief paper, and I think he is going to throw himself open for a lot of discussion. I know he has been sitting up here in fear and trembling because he said, "You know I am no arguer or debater at all," but I have no sympathy for him. If he feels that way he has no business in taking the side of the subject he does. He doesn't believe at all in putting standards into his books. I think he is even worse than that, but I won't say how bad off he is.

Once I went up to try to sell him the idea of putting standard costs into his account. He has standards, don't fool yourself on that. But he believes there are some parts of the business where it is almost impossible to set standards that are any good. Yet you would think offhand, when you know the nature of his business, it would be a simple matter. He is with the Motor Wheel Corporation. If you have an automobile you probably use some of their product, for they make a large percentage of all the automobile wheels used, both with wooden spokes and disc wheels. We

will let him tell you about it, because I think that, for a man who doesn't introduce standards into his accounts, he has the most effective control or check between actual and standard that I have ever seen.

Mr. E. H. Wildt, Comptroller of the Motor Wheel Corporation of Lansing, Mich.

E. H. WILDT: I don't know whether I feel very appreciative of that kind of an introduction or not. It makes me feel a good deal like the elephant Mr. Crockett was talking about, just as conspicuous and probably as easy a mark. I am sure Mr. Crockett thinks so anyway; at least I am not going to be scared to death because Mr. Crockett thinks I am an easy mark. Sometimes the elephant gets back at the hunter, you know. I think he put me at ease, because I have a short paper. I am going to achieve distinction by establishing a precedent for the shortness of the paper I am going to give you anyway. I think you will probably appreciate it inasmuch as I notice a lot of you are getting restless at this time.

Mr. Wildt then read his paper.

A METHOD OF CHECKING CONTROLLABLE DEPARTMENTAL EXPENSES BY USE OF MAXIMUMS

E. H. WILDT
Motor Wheel Corporation

INASMUCH as this is a standard cost session and as no doubt everyone present is interested in knowing who are and who are not making standard costs an integral part of their financial statement values, let me state at once that the Motor Wheel Corporation does not carry any inventories on a standard cost basis. We operate on the theory that we do not make a profit on our major cost items of direct labor and material until we make a sale, and we believe that is one of the fundamental principles of industrial accounting which should not be cast into the discard.

The nearest approach to a standard item of cost in our inventories is overhead. Overhead is included in our "In Process" and "Finished" inventories on what we consider, or estimate to be the

cost of this factor per unit, should the plant operate continually on a production schedule of the identical volume each month during the period when no change in overhead rates is made, except to provide for obvious changes in departmental operating conditions.

I am not exactly in step from the standpoint of principle in application of the normal burden rate when it comes to financial statements. We use it because, in the first place, it is a tremendous aid in getting out cost statements and financial figures quickly after the closing of any financial period. Secondly, it is practically essential that you use the normal burden rate which is based on what you assume to be the normal capacity of your plant, or capacity which you wish to reach in your plant, for which your management has set a goal for sales during the year, in order to arrive at an estimated or predetermined cost on which to base your sales quotations to your customers. But I think in principle that I am just as much opposed to using normal burden rates in financial statements as I am to using standard material costs or standard labor costs.

Maximum operating costs, however, are the measuring devices which we use continually to check operating conditions in our plants.

I have no intention of covering all phases of our comparative cost control methods as it would not be practical in the limited time assigned. I will, however, endeavor to explain the working of the comparative cost control of labor and supplies in one department of a plant. The principle involved is the same in all departments.

The department with which I am going to deal makes steel felloes and outside rims, and consists of six lines, or units of equipment, on which this type of product can be manufactured. There are two auxiliary departments, where the steel used in this department is pickled and where a portion of the finished parts is galvanized. There are, however, separate units for cost control.

In considering the cost control method in this department I will proceed as though only one item, or type of product, were produced. The total cost control figures are simply a summarization of standards, or estimated costs of all units or kinds of rims and felloes produced.

All standards—if you wish so to term what we refer to as estimated normal, or operating cost maximums—are developed by the

plant efficiency engineer in collaboration with the time study department, the cost department and the departmental foreman.

For the purpose of explanation we will use for illustration the set-up of a production of 13,000 3½" rim sections during one 10-hour day.

1st—Each unit of product is studied from a material standpoint, but that does not enter into this discussion.

2nd—All the necessary direct labor operations are laid out and each operation is assigned the requisite number of direct hours, determined through time study and experience records, that will be required to produce a thousand pieces. Due allowance is made, when necessary, for spoiled work from operation to operation. The piece-work rate is then assigned to each operation. Figures are now available for determining the standard or estimated normal or maximum direct labor cost by operation and in total. This computation also furnishes the necessary data for the determination of the number of burden hours to be considered as normal, which is to be used to determine the burden rate for the department.

3rd—The normal or standard daily production in units for each line, or unit of equipment is determined from the direct labor study and in this way the total normal or standard production per 10-hour day is determined for the department. Different production volumes are then set up, ranging from capacity production down to possibly 1/6th of capacity.

4th—A study is now made of the indirect labor personnel required to carry on at the various production volumes, and hourly rates are assigned to this personnel. This makes available the maximum allowable indirect labor cost for operating at the previously determined various production volumes.

5th—A review is made of all supplies used during past periods at various production volumes, and from such analysis a maximum supplies cost is set up for the various production volumes, on a thousand unit basis.

With the maximum allowances established we are ready for the semi-monthly check and a report is therefore compiled twice monthly.

Direct labor cost is set up as follows:

DEPARTMENT 18—RIM

Direct Labor Cost Report

Period Ended April 15

	Operation	Rate per M	Maximum Allowance	Actual Cost	Pieces Paid for
1	Shear & Weld ...	2.20	$ 343.20	$ 343.99	156,360
2	Weld	2.30	358.80	359.62	156,360
3	Burr Cut	2.20	343.20	343.99	156,360
4	Flatten	2.20	343.20	343.74	156,247
5	Roll—1st	2.30	358.80	359.36	156,247
6	Roll—2nd	2.30	358.80	359.36	156,247
7	Expand & Tape..	2.30	358.80	359.16	156,156
8	Punch Tenon ...	3.50	546.00	546.54	156,156
9	Wash	.48	74.88	74.88	156,000
	Total Direct Labor		$3,085.68	$3,090.64	

FORM 2

DEPARTMENTAL CAPACITY SCHEDULE IN PIECES

Ten Hour Day

Lines	*1*	*2*	*3*	*4*	*5*	*6*
Pieces	0-2999	3M to 5999	6M to 8999	9M to 11999	12M to 14999	15M to 17999

FORM 3

DEPARTMENT 18—RIM

Indirect Labor Personnel

10 Hours—5 Lines—12M to 15M Pieces

Supervision:		
Foreman	$13.34	
Asst. Foreman	10.00	
Asst. Foreman	7.00	$ 30.34
Set-Up:		
1 Shear—Coil—Weld	$ 7.00	
1 Shear—Flatten	7.00	
2 Rolls—Expand	14.00	
1 Tenon	7.00	35.00
Inspection:		
Oper. 5 & 6	$ 6.00	
Floorman	5.00	
7—Tape	32.50	
7—Final	32.50	76.00
Checker		6.00
Stock-keeper		4.50
Roll Grinders (3)		21.00
Sweeper (2)		8.00
Handling Stock:		
2—Expand to Tenon	$ 9.00	
4—Assembly	18.00	
1—Pile	4.50	31.50
Product Repair, 1050 @ .019		19.95
Oiling		5.00
Total Indirect for 10 Hours		$237.29
Cost per Departmental Hour		$ 23.73

FORM 4

DEPARTMENT 18—RIM

Supplies and Small Tools

Maximum Allowance

Items	Maximum per M Pcs.
1—Belting	$ .030
2—Brooms	.015
3—Emery Wheels	.220
4—Files & File Handles	.055
5—Hand Leathers	.033
6—Hardening	.150
7—Light Bulbs	.020
8—Metal Cleaners	.100
9—Oils & Greases	.400
10—Gas	.700
11—Rags & Waste	.060
12—Small Tools	.150
13—Tool Repairs	.950
	$2.883

FORM 5

DEPARTMENT 18—RIM

Semi-Monthly Operating Cost Report

Period Ending April 15, 1927

Production Summary

Total Departmental Hours Worked	120
Total Units of Production	156,000
Average Units of Production per 10-hour Day	13,000
Maximum Average Lines Used	5

Cost Summary

	Maximum Allowance	Actual Cost	Gain or *Loss*
Total Direct Labor (see Form 2)	$3,085.68	$3,090.64	$ *4.96*
Total Indirect Labor (see Form 7)	2,846.48	2,514.82	331.66
Total Supplies & Small Tools	449.75	425.84	23.91
Totals	$6,401.91	$6,031.30	$350.61

FORM 6

DEPARTMENT 18—RIM

Indirect Labor Analysis

Period Ending April 15, 1927

Standard Allowance Computation:

5 line hourly cost—$23.73 times 120 Departmental Hours worked = $2,847.60 (See Form 4).

Analysis:	Maximum Allowance	Actual	Gain or *Loss*
Supervision (120 × 30.34)	$ 364.08	$ 364.08	.....
Set-up	420.00	378.13	$ 41.87
Inspection	912.00	835.43	76.57
Checker	72.00	77.20	*5.20*
Stock-keeper	53.00	27.36	25.64
Roll Grinders	252.00	188.37	63.63
Sweeper	96.00	99.20	*3.20*
Handling Stock	378.00	379.89	*1.89*
Product Repair	239.40	111.56	127.84
Oiling	60.00	53.60	6.40
Totals	$2,846.48	$2,514.82	$331.66

FORM 7

In Form 6 you will see a summary of a half-monthly operation, and in Forms 7 and 8 you will see where the maximum allowance of indirect labor is compared with the actual in the department for the period, and the loss or gain per item, and on Form 8 the supplies and small tools analysis is shown.

The comparative period schedules are then posted on a columnar sheet so that the losses and gains for each period can be compared, as certain losses and gains for a single period (belting, for instance) mean nothing except several periods are taken into consideration.

In addition to the aforementioned direct labor summary report by departments, a semi-monthly report is furnished the factory manager showing the number of pieces produced on each operation in the plant and the average earnings per hour for each operation compared with the earnings per hour allowed by the time study department when the piece-rate was established. This report enables the factory manager to see what rate changes should be made

DEPARTMENT 18—RIM

Supplies and Small Tools Analysis

Period Ending April 15, 1927

Pieces produced 156,000 times Maximum Cost Allowance per M —$2.883 (See Form 5)=$449.75.

Item	Maximum Allowance	Actual Cost	Gain or *Loss*
1—Belting	$ 4.68	$ 3.83	$ .85
2—Brooms	2.34	1.49	.85
3—Emery Wheels	34.32	34.24	.08
4—Files & File Handles	8.58	3.78	4.80
5—Hand Leathers	5.15	6.14	*.99*
6—Hardening	23.40	.....	23.40
7—Light Bulbs	3.12	1.28	1.84
8—Metal Cleaner	15.60	13.26	2.34
9—Oils & Greases	62.40	51.88	10.52
10—Gas	109.20	84.31	24.89
11—Rags & Waste	9.36	6.74	2.62
12—Small Tools	23.40	30.22	*6.82*
13—Tool Repairs	148.20	188.67	*40.47*
	$449.75	$425.84	$23.91

FORM 8

when the original rate was established too high or too low or when operations have been simplified or changed so that the original time study no longer is equitable.

Just a word relative to material control. A monthly and cumulative scrap loss record is maintained and daily inspection reports which furnish amount of scrap set up against the number of pieces processed enables the inspection foreman to catch quickly and the operating management to correct immediately any correctible condition which is resulting in excessive scrap.

With reference to what has been accomplished by us from a savings standpoint by the foregoing procedure, I feel a little timid about telling you this because it seems very large. I checked this up for this period. These standard schedules have been revised in this department three times since it was started. I will say that

checking up the period ending May 15, 1927, against the period ending September 30, 1926, I had to go back that far in order to get a production which was anywhere near comparative to production at the present time, or during the month of April, a saving per unit in labor and controllable expense has been accomplished amounting to $1,713.68 per month, or 58/100 cents per unit of production in this one department during the above-mentioned period.

Not only has every department shown a nice saving in operating expense but better operating cost statistics have been made possible through the interest created in the foremen in their attempt to make a good showing. Labor tickets are much more carefully checked by the foremen and the giving of day-work to piece-workers when production has been held up has been practically eliminated. You will notice there is no idle time shown in this department. Supply requisitions are issued only over the OK of the head foremen and the cost extensions on such items are given careful consideration. Very frequently even the price paid for material is questioned.

CHAIRMAN: We have a few minutes left. Before we ask for a general discussion from the floor, I would like to have Mr. Jordan tell you rather briefly what he thinks about this whole idea of introducing standards into the accounts. I am not sure, but I think Mr. Jordan is rather a firm advocate of putting standards through the accounts and carrying inventories at standards; perhaps I am wrong. At any rate he has to go very soon, and I think we would like to hear him say something on this subject in a rather technical way, so I am going to give him this opportunity right now.

J. P. JORDAN, *Stevenson, Harrison & Jordan, New York:* Do you have a monthly profit and loss account?

MR. WILDT: Yes.

MR. JORDAN: What sales cost do you use, standard or actual?

MR. WILDT: Actual, using normal burden.

MR. JORDAN: Therefore, if the purchasing department or any other department gets considerably off during any month in their material or direct labor costs, you show a cost of sales that is much larger or smaller during that month?

MR. WILDT: That is right.

MR. JORDAN: I asked that question on account of this particular fact: that the sales department has a little right to be thought of in this matter. You won't have anything to operate on unless the sales department sells something. Therefore, you must give the sales department costs to go ahead on. If you can conceive of this, those costs must be given and sales must be made before you can operate a wheel in your plant. Therefore, something must be decided with respect to the costs on which the sales department will set their prices.

Then after the machinery of the plant starts to operate, it does seem to me that all you can chalk up against the cost of sales is the cost on which the sales department went ahead to do the work, which is nothing more or less than standard cost.

I have in mind a condition in a plant that I just came from. I am only here between trains. It is a big steel plant where they have in the past pyramided the costs—the coke, the pig iron, the ingots, and then into the rail mill, or into the big blooming mills, and so on through to the merchant. The material then goes from the rod mill through the wire mill where they draw the wire and make nails or fencing, or something of that sort. The old method used to be to pyramid those costs so that if the coke cost was up, the blast furnaces would be charged more for coke, and the pig iron cost would be up. If the blast furnace did not operate efficiently, the pig iron would not only be up the extra amount of coke but would be up on account of their own inefficiency. That would go on to the open hearth furnaces, and all of those costs would be pyramiding.

By the time it got to the rail mill, even though the rail mill ran perfectly normal, the rails would come out at much higher cost, because the other three departments had gone off color. I can go back even further, and that is into the mines where the coal that went into the coke may have been up or down, or the ore out of the ore mines may have been up or down, and so the merry cycle pyramids on.

Here is exactly what they did: Each month the auditing department of this plant would get the actual cost of billets or of rails, but particularly billets, we will say, because that is what would be in their inventory. That might have been $10 or $15 a

ton higher than they could dare inventory them at. So what did they have to do? They had to charge in all the cost into the inventory account, and then they would inventory those billets, or any material that was left in work in process, at what they considered a perfectly allowable value. Then they would soak the old sales cost, and it made the sales department look like less than thirty cents in value in dull months.

If you do not carry the standards all the way through to the profit and loss account and allocate the various costs exactly as they belong, it is not fair to all the departments of the business.

The sales department of the business, in my humble opinion, is entitled to be charged in sales cost at costs which they are expected to sell goods on. If there is any divergence from that, it should show in the books of the account, in the departments, and against the departments who fell down in producing their goods.

The sales department should stand on its own feet in showing that the sales cost is running at a normal percentage of profit or something is wrong in the sales department. The same thing applies to purchasing. Last month the purchasing department fell down on getting manganese ore in, for instance, at a proper figure. They ran short and had to buy some spot ore. This happened in a number of other cases. That variation in standard of that particular ore showed instantly who was off, and it would never have been known; I will agree with Mr. Wildt, in so far as the plant is concerned, that the statistical method of operating is of value to the plant. It makes no difference to the plant whether that is carried into the books or not, if you carry the statistics along the same line, but when you break off there and do not carry these over- and under-absorbed balances in all the phases of labor, material and everything, you lose a managerial control of purchasing, of operating, of selling that you otherwise get in full. I do not believe in using the sales cost account for a general dumping ground in which all inefficiencies are dumped, and thereby give no fairness or no good measurement to the sales department in perfecting the gross profit made in the goods they sell.

If you get into a business like the rubber business, textile business, various other businesses of that sort, you have many branch offices. It does seem to me that there should be a statement from each one of those offices charging the sales cost at the standard, in

order to measure whether or not the selling department is getting the proper margin of profit.

Then, having their sales or selling expense in conjunction with that, you get a control that you get in no other way. I believe the purchasing department should be regulated by knowing exactly where they fall down or make money on the goods that they are buying. That is a matter of great importance. If these things are not carried into the books and carried along in statistics, I feel that the very best of the advantage to be gotten from standards is not reached.

I will admit that in the plants statistics are all right, but if all these things are not carried into the books but are carried along only on memorandum statistical methods, it seems to me that the great advantage is not secured. I know that in the general profit and loss account, when you have the under-absorbed or over-absorbed balances for each one of these departments, including the under- and over-absorbed balances on materials, which reflect, to a great extent, the efficiency of the purchasing department, it seems to me you get the most out of it. If it is confined to simply a few statistics in the plant and not carried all the way through, it seems to me that the greatest benefits are lost.

MR. SWEETSER: Being rather meek, I hesitate about saying very much about this subject. I have learned, however, that the meek inherit the earth, therefore I would like to ask whether the sales department would be chargeable with the fact that they didn't sell enough to keep some of the departments busy, and how would Mr. Jordan handle that.

CHAIRMAN: Mr. Sweetser asked you if the sales department didn't sell enough to keep the departments busy, would they be charged with that.

MR. JORDAN: Most assuredly, because in the analysis of the failure to reach the standard, the volume of business will be the reason. So far as volume is concerned, that is all analyzed and shows that the sales department has fallen down.

MR. SWEETSER: You left the impression that the sales department had a right to stick to the standards, and that variations were chargeable to someone else. I submit that the sales department at least ought to agree to some adjustment of the costs of

sales on these standards, in the event that they fail to reach the volume of sales which the sales department set up in the budget.

MR. JORDAN: It isn't the adjustment of the cost; the fact remains the same. For instance, where a department is running at 50% speed through lack of orders, the analysis of the records will show that that is the fault of the sales department, and they have got something to answer for. That is the idea of holding it in that way in the records. I understand I am in for trouble.

CHAIRMAN: Mr. Wildt wants an opportunity to get back at Mr. Jordan.

MR. WILDT: I didn't suppose I was going to get into a discussion of the entire cost procedure of the Motor Wheel Corporation, but it looks as if Mr. Jordan has pulled me right in. I was just giving you departmental costs showing how we controlled our costs through maximum allowances in our departments to keep down departmental expenses.

When Mr. Jordan states (and he practically made that statement) that with our method we don't show what our sales department is doing or give our sales department any credit for profit they make over the estimates they furnish to get sales, it is not exactly correct. We produce monthly, or we break down our costs monthly by operations through the entire plant on every job that goes through. We show the costs in detail for the units which are produced in our plant, as compared to the original sales estimates or standard, whichever you want to call it, that the sales department was given to sell that output on. We have another figure which shows what the selling price was of that unit. So the management can tell instantly, without any difficulty at all, what operation fell down or where the material cost more than it was estimated and, with the overhead statement of the plant, how much loss was taken during the month, due to unabsorbed burden because the sales department failed to sell the normal output of the plant. We have all of those statistics available without affecting our financial accounting at all.

Chairman Crockett then adjourned the meeting.

SESSION IV

THE PRACTICAL APPLICATION OF STANDARD COSTS

WEDNESDAY AFTERNOON, JUNE 15, 1927

This session was organized under the direction of

H. G. CROCKETT

Scovell, Wellington & Company, New York

PAUL T. SKOVE was educated at a business college and later took courses at the Y. M. C. A. School of Technology. Mr. Skove has been with the Perfection Stove Company for the last 18 years. During that time he has been connected with the Costs, Estimating, Timekeeping and Payroll Departments. He is now Assistant Secretary.

OLIVER V. MAHAN was educated at the public schools, Hoboken, N. J., entered business at the age of 14, but continued his education through several courses. After several years at the National Park Bank, New York City, he entered the manufacturing field, holding the positions of Assistant Treasurer of the Metals Production Equipment Company, Springfield, Mass., and General Manager of the Connecticut Alloyed Metals Company, Bridgeport, Conn. He is at present Assistant Treasurer of Herman Behr & Co., Brooklyn, N. Y.

THE PRACTICAL APPLICATION OF STANDARD COSTS

PRESIDENT FINNEY: Gentlemen, we have been honored this afternoon by a visit from a representative of one of the most outstanding associations of manufacturers in this country. I want at this time to introduce to you Mr. Thomas P. Hamilton, President of the Illinois Manufacturers Costs Association. Mr. Hamilton may want to say a word to us.

THOMAS P. HAMILTON, *Illinois Manufacturers' Costs Association, Chicago:* I came here for the purpose of becoming acquainted with you and cooperating in welcoming you to Chicago. I did not anticipate the pleasure of being asked to say a few words to you.

I can certainly compliment the National Association of Cost Accountants on its wonderful gathering. It is beyond our conception that an association of cost men could stage a convention of this magnitude.

Here in Chicago, here in Illinois, for a number of years we have had an association called the Illinois Manufacturers Cost Association which is a subsidiary of the Illinois Manufacturers Association. It consists of the cost accountants and executives of the manufacturing plants of this state, the executives who are interested in costs. We have just celebrated our eleventh anniversary, and our meetings have been held regularly for the eleven years of our existence here in Chicago and elsewhere in the state. Those of our members who live downstate have been meeting in St. Louis, and those who live in the northern part of the state we try to get here in Chicago.

We have had a series of monthly luncheon meetings at this and other hotels in the loop district of Chicago, and have had several evening meetings during the course of the year. We aim not to go into cost accounting so intensively as you gentlemen do, but rather from what we hope is a practical standpoint. Our meetings are frequently on subjects of general economic interest, always with the cost theme dominant. What I consider our most important

and constructive contribution is committee studies of various subjects of fundamental and vital interest to manufacturers along cost lines.

Every year we have two or three committees who meet regularly, and at the end of the year make a finished report. Last year we had reports on the use of standard costs and the treatment of the cost of distribution. We always want to cooperate in the fullest measure with the National Association of Cost Accountants. I am very much pleased to know that a great many of our members have accepted your kind invitation to attend the sessions of this convention. I want to thank you most sincerely for your courtesy and assure you that at all times you may count on our cooperation and never on any competition.

PRESIDENT FINNEY: I am very glad indeed that Mr. Hamilton has told us of the activities of the group of which he is the head.

I want to thank you, Mr. Hamilton, on behalf of our members for your very courteous compliments. Inasmuch as the group of which you are the head, and our Association have so much in common, it is my hope that we will come closer together and learn to know each other better. Thank you very much.

Without any further word from myself, Mr. Crockett will proceed with the technical session from the point where he left off this morning.

Mr. H. G. Crockett took the chair.

CHAIRMAN: As I said this morning, you had a presentation from speakers who do not carry—at least two of them—their inventory at standard. They use them for check-up information but don't introduce them into the accounts. You had one speaker who emphasized the standard burden and budget but didn't touch much on inventories. We have two speakers this afternoon, both of whom do carry their inventories at standard, not at actual.

The first speaker represents the Perfection Stove Company of Cleveland. He will tell you something about what they make. In selecting speakers, I think you will see that I have covered about as wide a variety of industries with as many different problems as was possible. There are a great many more than five industries, so I couldn't cover everything. I believe we have men who represent every conceivable kind of cost accounting problem, and this

one is a little different from any of the others we have had this morning. So without any further introduction I am going to present Mr. P. T. Skove, Assistant Secretary of the Perfection Stove Company of Cleveland, Ohio.

P. T. SKOVE: I have had a very good time at this convention up until now. I am reminded of a story told about George Cohan. Someone asked him once how he became so proficient as a musician. He said it was like this: his folks lived in Johnstown, Pennsylvania, at the time of the flood, and when the catastrophe happened, his folks went down the river on a chicken coop, and he "accompanied" them on the piano. I would rather accompany you folks than be up here. I feel humble about the task that has been assigned to me. I am a new member in the Association, and I would rather hear about what other people do, and see if I could learn something from them. I have been benefited by the talks we have had so far.

Mr. Skove then read his paper.

HOW PERFECTION STOVE COMPANY FIGURES STANDARD COSTS AND HOW ACTUAL PERFORMANCE IS CHECKED AGAINST THE STANDARDS

P. T. SKOVE

Perfection Stove Company

IT might be well to begin by saying that we have two plants in Cleveland, the Platt Avenue works and the Ivanhoe works, both plants producing finished product of a particular kind, and the Ivanhoe plant also producing all porcelain enameled parts used at the Platt works.

While we can be classed as a plant making a standard line of product, we do make a variety of sizes and kinds. At the present time our production can be classified as follows:

38 kinds or sizes of cook stoves
4 kinds of water heaters
9 kinds of cabinets or warming shelves
11 kinds of portable ovens
4 kinds of wicks for replacements
12 kinds of room heaters

A total of 78 kinds of product. (A 303 stove has 299 parts.)

Some folks think that oil stoves went out of existence about 1888. I just want to show you they are still made. Some of you men and women perhaps have never seen what an oil stove looks like; you probably never used anything but a gas stove. They (oil stoves) are still used in some parts of the world.

When you bear in mind that these products must be packed in one manner for domestic shipment and in an entirely different manner for export shipment, and then consider that we sell from 300 to 400 items of repair parts, you get a picture of our program in both production and cost departments.

Standard Costs Are Based On Sales Budget

I might say these two plants of ours are divided into, I think, 64 different production departments. It might also help you grasp our plan of operation by saying we have made this same product for about 25 years, and we have standardized pretty well on the list of products that I already mentioned.

Each fall a sales budget is made which forecasts the company's sales for the next calendar year. This is used as the basis for our manufacturing budget and for our standard costs (proper allowance being made for inventory carry-overs, etc.).

I am not going into any detail about the making of this budget, because that is something that is handled by the sales department and is done thoroughly. They go down first to the district office and then to the salesman's territory by counties, and they have a great deal of data available which will help the sales department make the proper budget or quota for the county, then for the salesman's territory and for the district.

The net manufacturing budget is converted into terms of direct labor and work units for the whole plant and apportioned to each department. Seventy-five per cent of our direct labor is on piecework basis and it is our aim to time study and establish a piecework price on every operation possible. We have about 11,000 piece-work prices in current use.

I thought we were getting somewhere on the quantity of piecework prices we had established until I went to the Western Electric Company Monday, and I have since decided we aren't very big.

It might be well at this time to explain the work unit. One work unit is the equivalent of a definite amount of product per

operator per hour under the best conditions. For instance, if a time study shows that a normal, or standard, operator working under certain conditions which are presumed to be the most efficient conditions that can be devised, can produce 2,000 pieces per hour, in order to find the hours required to turn out 1,000 pieces we divide 1,000 by 2,000 and get a figure of 0.50 hours required to produce 1,000 pieces. This is the standard time allowed for producing 1,000 pieces and is the work unit equivalent. A man who turns out 1,000 pieces on this operation therefore produces 0.50 work units.

I might say if in an hour we only produce 500 pieces, we would only produce one-half unit. In other words, we don't use the man-hour or the machine-hour; we use the actual production turned out by the man, converted into the terms of units.

To produce the monthly quota of work units in each department as apportioned by the budget, each department will have certain labor and expense items which cannot be allocated directly to the product. These are such items of indirect labor as trucking, janitor, repairs to product and such items of expense as lubricants, waste, miscellaneous supplies, etc. Just how much indirect labor and expense of this kind is necessary is calculated by taking two or three years' experience and reviewing the data very thoroughly with the factory manager, works superintendent, and the foremen of each department. Thus we arrive at the normal, or standard, figure which is allowed for each of the items.

The building charge is based on actual space occupied by each department. The depreciation charge is based on the equipment used in each department. Dividing each item of indirect labor and expense in each department by the budgeted number of units for that department, gives us a standard cost per unit for each item. When all these individual costs per unit are totaled we have a standard burden cost for the department.

Plant Overhead. There are, in addition to the producing departments, a certain number of departments which do not directly enter into the manufacture of the product but are necessary to control the producing departments, such as service and employment, production planning, drafting, inspection, etc. None of this expense can be applied to any particular article. The budgeted costs of these departments are added together and divided by the total

units to be produced in the plant and we arrive at a cost per unit called "plant overhead."

MAINTENANCE DEPARTMENTS. There are also certain departments such as millwrights, pipe fitters, carpenter shop, etc., which are not charged directly to the product. The expense of these departments is charged to the various producing departments for which they do work. We do not charge any plant overhead to the maintenance department. Plant overhead, however, is charged on any work done in maintenance departments that is direct labor on the product itself.

For instance, you may have a tool room that is devoted primarily to making dies and tools, but they may do some production work on a special order of some kind. We would put that into the direct labor and charge the plant overhead on it.

MAKING UP STANDARD COST. We have explained how we arrive at the standard burden rate. By constant check on our specifications for material, we can, of course, determine quite accurately the amount of material required for each part and for each product. Price used is cost or market, whichever is lower. It is also our aim to time study all direct labor. Where this is not feasible we set standard day-work direct costs per unit based on our experience. We then have all the data ready to summarize on our standard cost sheets for the product. We might say here that we make a complete revision of our standard costs at the close of each year and this standard cost is used throughout the year for all accounting records and all adjustments are made against this original standard cost.

We do not, however, wait until the end of the year and then attempt to make a complete check on all material and labor and try to record all the changes that have occurred in the past twelve months. Instead, we keep a record of all material changes currently, and also a current record of all changes in piece-work prices, so that we really have a corrected standard cost all through the year.

I mean we don't change our accounting record. Instead of waiting until the end of the twelve months' period and working seven nights in the week to get our standards revised, we take care of changes as they come up currently, so that at the end of the period, by a very short period of concentration, we can make

our complete check on the standards and close them up and start to use them.

It is quite clear from this that we do not subscribe to the theory that a standard cost can be set, and that the standard never changes. Our standard procedure, in the way of material and operations, is being changed continuously through suggestions and the work of our engineering and efficiency departments.

I don't think that ours is any different experience than others. We are all working to cut down costs and to improve our operating efficiency all the time. At the Western Electric Company they told us they had 200 men working on that kind of a study continuously. That is a pretty good-sized department in our plant.

Making Adjustments Against Standard Costs for Product Produced During the Month

MATERIAL. All material goes into Stores account at actual cost and when requisitioned for production is priced at both standard and actual cost. The total difference for the month is a gain or loss against the standard and this amount is reported to the accounting department for inclusion in the general books. The detail sheet on our material figuration shows the material classified as to steel, brass, aluminum, etc., so that we can see just which items are varying from standard. Both the standard and actual cost prices are put on the requisition by the purchasing department but the cost department completes the balance of the figuration.

I think we all have found we can't control the material we use; we can't control it 100% by any means. We may get in a lot of steel and brass which will not form or draw properly in the punch press, and it isn't fair to set up a standard percentage based on bad experience of one particular lot.

SCRAP. We have so far not attempted to show gain or loss against standard on scrap spoilage produced as this variation has proved to be a very small item, and we believe the cost of compiling the data would be greater than its value. We do, however, check actual scrap percentage against the standard each time we make a standard cost. We are now using three-year averages rather than one year's experience to set standard scrap percentage.

Also we have not attempted as yet to show gain or loss on cost of material where material different from standard specification is

substituted, as our experience has been that this is also a very small item.

Department Burden (Indirect Labor and Expense). Here we take the actual units produced in each department and extend at the standard cost per unit. This gives us the standard burden for the month's production. The actual burden expense for the whole plant is available as soon as the books are closed for the month and the difference, gain or loss, is transferred to the accounting department for closing into the general books.

On some operations we have three or four methods of performing the work. The cheapest, of course, is the standard. Occasionally the machines or tools used for the standard operation will be out of commission. We also have some items that are produced during the year at a lower cost than was set in the standard at the beginning of the year. This is another item on which we do not attempt to show the gain or loss for the month as we have found that the variation is a small one. We recognize, however, that if considerable work were done, which was not carried through in the standard or approved method, some recognition would have to be taken of this item in the way of a special adjustment or "pick-up."

Plant Overhead.—The gain or loss on plant overhead is arrived at in the same way as on departmental burden except that, of course, we use the total units produced for the plant.

Tools and Dies. All repair and maintenance expense is charged to the department using the tool. We are now working on a plan by which we hope to be able to apportion the cost of new tools and dies, as well as the repairs, to the cost of the product produced, so that those items of product which require more accuracy and which use the more expensive tools will be charged with the correct cost.

We haven't found anybody that has worked that out to a complete solution. I think it is an ideal we would like to get to. We haven't been able to work out all the details of it yet. We have on certain products on which the standard for accuracy is much closer than on others, and the cost of upkeep on those tools is a great deal higher than on others. Naturally in charging the expense of upkeep on tools to the department, it is spread over all

the production of the department instead of being charged more particularly to the product that created that extra cost.

Reserve Set Up for Covering Variation in Standard Costs

It might be of interest to say, at this time, that we have been setting up a reserve on the general books to cover variation in gain or loss against standard costs so that a uniform amount is applied to the profit and loss statement each month, instead of having this item show large fluctuations from one month to the next. For instance, if we have a good operating month where the plant has been producing more than the standard volume, we would very likely have a gain against the standard. If the next month, due to seasonal or other conditions, the volume of production dropped to a point where we were not producing the goods at the standard cost, we would have a loss against the standard. To avoid these fluctuations in our monthly profit statements we have been using a reserve so that the adjustments against standards, either gain or loss, have been applied in a uniform amount. Of course, we have to make the final adjustment against this reserve at the end of the year when the books are closed and the inventory taken into the account.

Daily Departmental Cost Sheet

First, let me say that we require every foreman to O.K. the time tickets for every man in his department. On the time ticket for each operator we show the efficiency of the operator for the day, so that when the foreman is reviewing the tickets, he can see whether each operator is performing over or under 100%. This gives him the information necessary to determine whether any of his men are not fitted for the work on which they are being used. Every day the superintendent is also given a report of all employees running over 115% or under 75%.

We feel if they run considerably over standard we ought to make an investigation. If they run considerably under, naturally we ought to make an investigation and see what the trouble is. I might say we use the foreman as the man who is absolutely in control of the department. We hold him responsible for costs, and we subscribe to the theory that we ought to give him all the help we can.

A D 275 3 26

PLANT

DAILY REPORT OF WORK UNIT COST

For _____ Department _____ 19____

DIRECT LABOR	HELPER HOURS	OPERATOR HOURS	UNITS PRODUCED	% OF EFFICIENCY	COST PER UNIT BUDGET	COST PER UNIT ACTUAL
Piece Work						
Day Work						
Total Direct						
Standard Unit						

INDIRECT LABOR	STANDARD BUDGET MONEY	ACTUAL MONEY	COST PER UNIT BUDGET Units	COST PER UNIT BUDGET Units	COST PER UNIT STAN. BUDGT Units	COST PER UNIT ACTUAL Units
21-Supervision						
22-Bonus (Weekly Units)						
23-T.D.L.						
24-Janitor						
26-Repairs to Product						
26-2 Truck Scrap						
27-Die & Machine Setting						
28-Trucking						
29-Allowance						
30-General						
31-Die Storage						
32-Stock Keeping						
33-Oiling Machinery						
34-Machinery Repairs						
35-Tool Room						
36-Instructing						
37-Solutions, Clean, Fill Tanks						
38-General Help						
39-Firemen						
50-Sort Stock						
061-Clerk						
076-Checker						
Total Indirect						
GRAND TOTAL						

% Piece work Hours to Total Hours, Actual _____

Standard _____

Each day, the foreman, as well as the factory manager and superintendent, receives from the cost department a "Daily Report of Work Unit Costs", as above. Our present schedule on getting it out of the cost department is that Monday's report must be in the hands of the foreman at ten o'clock Wednesday morning. That allows the cost department Tuesday to make up the

figures on the report and publish the sheet, and get it back to the foreman by ten o'clock Wednesday for Monday's work.

This report shows in the first column the actual hours expended on direct labor, both day-work and piece-work, as reported by the time tickets for the day. Our schedule requires that this report be in the foreman's hands by ten o'clock of the second day following.

In the second column the actual work units produced on both day-work and piece-work are shown, this being the sum total of the work units recorded on all the time tickets of the department for that day. Under this same heading of Units on the line marked "Standard" is shown the units that should have been produced if the department operated at the speed set by the budget. By comparing this figure with the actual units produced, the foreman will know whether his department is producing at a rate of speed either greater or less than the budget.

In the third column the percentage of efficiency is shown. This percentage of efficiency is arrived at by dividing the actual units produced by the hours expanded.

"Cost Per Unit." In the last column headed "Cost Per Unit" is shown, first, the standard or budget cost per unit, and second, the actual cost per unit.

"Indirect Labor." All of the various items such as supervision, janitor, repairs to product, etc., are shown both in standard and actual cost. The actual cost per unit for indirect labor is arrived at by dividing the money spent, as shown by the time tickets for that kind of labor, by the work units produced for that day.

If the actual units of production equal the budget number of units, and the department cost per unit for indirect labor equals the budget cost per unit, we say the department is staying within the budget. But this does not mean that foreman should say to himself, "Well, this looks good," and place the report in the waste basket or desk drawer. As far as total cost per unit goes, he may be within the budget, but if he looks at the item "Repairs to Product" he may find that he is running over the budget in cost per unit, and this needs investigation. It may be some other item that is bringing the total cost per unit down to budget. Every item should be analyzed.

If the actual units produced and budget units are the same and actual cost per unit is less than budget, the same analysis should be made, for the foreman may find that the item of trucking is higher than budget but the repairs to product is lower and this is bringing the grand total under budget. If actual units produced and budget units are the same and actual cost per unit is higher than budget, the foreman should investigate every item that is causing the trouble.

If the actual units produced are higher than budgeted units, the actual cost per unit should be lower than budget cost per unit, because the indirect labor items should not increase in proportion to increase in production units. Take the item of janitor, it probably would not take any more janitor labor, or at least not a great deal more, if units of production increased, but when we divide a larger number of units into cost of janitor service we get a reduced cost per unit. Repairs to product may increase in proportion to increase in production, but items such as supervision, janitor, oiling machinery, etc., should not increase in proportion.

If the actual units of production are less than the budget units, the total cost per unit will increase because certain indirect labor classifications will not go down in proportion to reduction of units, such as supervision, janitor and clean. Trucking allowances, and repairs to product should show a reduction practically in proportion to reduction in units. As in cases noted before, the foreman should make every effort to better the budget on each item, and not only as to total.

We have large wall charts in each department which are filled in daily and show in graphic form, for the benefit of the foreman, what the trend of the department is as compared with previous days. These show the following items:

(1) Percentage of piece-work hours to total hours. Actual performance vs. standard.
(2) Percentage of efficiency. Actual performance vs. standard.
(3) Indirect labor cost per unit in cents. Actual performance vs. standard.
(4) Overtime bonus cost per unit in cents. Actual performance vs. standard.
(5) Allowance cost per unit in cents. Actual performance vs. standard.

Monthly Departmental Cost Sheet ("Blue Book")

By that we mean the allowance for power being shut down, machine out of order, waiting for material or any other cause that is beyond the control of the man. At the end of the month we have a departmental cost sheet which we call the "blue book." Yesterday somebody called it the black book; it is exactly the same kind of a book, 8½" x 11" sheet, which summarizes the figures for the month for the foreman. You remember we first show on the time ticket how each producer performs. He sees that currently. He gets his daily cost sheet summarizing his department, and at the end of the month he gets the monthly cost sheet.

At the end of each month the departmental actual costs are computed, copies being sent to all executives interested. Each foreman gets the report covering his own department. This report shows all the money spent in the department, whether it be for direct labor, indirect labor, or expense. It shows the foreman the hours and money for the current month, the average rate per hour for each class of labor, the total dollars for year to date, and the cost per unit for the calendar month, year to date, and the standard or budget. With this cost sheet before him, the foreman can see exactly how his performance was as compared with the budget.

I might say here that we have an incentive plan for our foremen, and believe me they certainly do use these cost sheets. Every month, in fact every day, we have the foremen coming into the cost department and asking for further information as to why their cost per unit on trucking or die-setting or sweeping, or whatever the item happens to be, is high. We get the time cards right out and show that we have the information recorded correctly. I guess once in a while they do get it on the cost department; we may have classified wrong. We are not 100% right all the time, but they are in touch with the information currently and reviewing it again at the end of the month.

We have an incentive plan for the foreman whereby he can make a certain additional sum of money which is paid to him at the end of the year. It is not a fixed sum; it is a percentage on his salary, and that percentage will be the maximum or something less than the maximum that is set, depending upon his performance. We don't rate them entirely on this cost sheet. They are

rated on how they handle their help, the personnel relations and production and other things, but the cost sheet has a very vital part, of course, in the rating we give the foremen.

We might state at this time that we have found it necessary and advisable to make three operating cost budgets to cover the variations in production which we encounter throughout the year. One of these budgets is the normal, or standard; the second covers the abnormal high peak months; and the last covers the abnormal low operating months. You probably have had the same experience along this line that we have, that is, that the average, or normal budget does not give the right standards for either peak production or very low production.

In our experience with the budgets for controlling manufacturing operations, it appears to us that the ideal condition would be to have a budget set for every conceivable rate of production. This, of course, we all know is a practical impossibility. In our line of business, however, we have certain months in the year when we are operating at somewhat higher than the average rate of production and we also have a certain period in the year where we usually operate at somewhat lower rate than the average. We have found that the normal, or standard, budget, based on average production does not give us the right standard to use in measuring costs when production is running at an abnormal speed.

What we have done is to make three complete, separate and distinct budgets, one based entirely on the costs that should be attained if we operated at the high rate of speed throughout the whole year, one based on the normal or average speed, and the third covering the normally low operating months. It has taken some extra time and effort to secure these figures, but we have found it well worth while as it has helped us in the accurate control of expenditures during periods of high and low production.

Use of Cost Information for Cost Control

As soon as the departmental cost sheets are available, all variations from standard are investigated by the cost department and as soon as the information covering the variations is ready, a conference of the vice-president in charge of manufacturing and other factory executives is held, and the whole report of operating costs is thoroughly reviewed. Some of the items that are checked in each department are the following:

(1) The percentage of piece-work against the standard.
(2) The percentage of efficiency of direct labor.
(3) Direct labor cost per unit. (If this shows higher than the standard, investigation is made to see if any operations are being performed at base rates higher than the approved rate.)
(4) Indirect labor costs. These items have already been mentioned.
(5) Expenses, such as maintenance of machinery, tools, power, lubricants, waste, miscellaneous supplies, etc.

That is practically the same thing we show on the chart. We review the efficiency of the department, their indirect labor costs, their direct labor costs and their expense costs, going into each item thoroughly, and proper explanation must be made of every item of expense and action taken to set up means to prevent the recurrence of items that have not been within the standards.

This usually takes a full day but we can say truthfully that these conferences have been most productive of good results in the control of expenses of all kinds in the factory departments. We do not recall a single conference at which some suggestion was not made that proved to be of considerable value in controlling and reducing expenses.

CHAIRMAN: Perhaps you have noticed that all of these speakers whom you have heard so far represent companies in metal trades of one kind or another. Most everybody said to me, "Well, standards apply very easily, can easily be applied to any kind of a process operation, but when it comes to fabricating, where you have thousands of different parts and kinds, it isn't so easy." I hope you have had proved to you this morning that you are all wrong if you think that, because we have had four speakers who are all in what we call fabricating lines, some making many more parts than others. It wasn't brought out clearly, but the Cincinnati Milling Machine Company make a great many more parts than any of the other companies represented, because they have a great many different types, sizes and kinds of machines, and every one of them with thousands of parts. While they don't introduce the standards into their accounts as much as some of the others, they do have material and labor standards for every part they make and for every operation they perform.

I thought a session of this kind wouldn't be complete unless we had a representative of an entirely different kind of industry. It wasn't easy to find a man whom I felt qualified to do this job. There were some who were qualified who I knew couldn't get here; the distance was too great, and the expense was too great, and so forth. We have a man who is going to talk to us and tell us about the use of standards in making sandpaper or abrasives. I think there are probably very few people here who know much about sandpapers and abrasives; I didn't, until I happened to come across this company. As a matter of fact there are few companies in the country that make it. I asked this gentleman, instead of going into detail of how he handles the costs, to give us a pretty fair picture in some detail of just what their operation is and what the processes are, not because I think you are particularly interested in knowing how sandpaper is made, but because I want you to get the idea that if they can use standards in their industry, whatever your business is, you can use it in yours.

They have some unique problems that I have never before encountered in any other industry; yet they have been solved, and they are using the standards very effectively. So it seemed to me it would be much more useful, if he explained what their manufacturing problems were, and then simply said, "We do use standards to control all of these operations and all of these materials and all of these factors." Out of that you may get the idea that you have an operation or a problem something like theirs. If they can use standards, then you can.

Therefore, Mr. O. V. Mahan, who is Comptroller of the Herman Behr & Company of Brooklyn, N. Y., is going to tell us something about their manufacturing and accounting problems in making abrasives. I might say this is the oldest company manufacturing abrasives in the United States. Mr. Herman Behr, Sr., came over here years ago and established this industry in this country. The company is still operated by the family. In fact, the gentleman is still living and is fairly active in the business.

O. V. MAHAN: I recently heard it said that when a speaker got up to deliver an address and he was applauded, that signified faith; if he was applauded when he was half through his address, that was hope; and if he was applauded at the end, that was charity.

I appreciate the faith. At this time I am going to add to what Mr. Crockett has said, that I have been with the abrasive industry for less than a year, and I know very little about the abrasive industry. My alibi is accentuated by an item that I have taken from one of the periodicals that I found in our Chicago office a day or two ago, while attending our Chicago sales convention. The title of this article, which is picked from the *Hardware Retailer* of May, is entitled, "There are only eight thousand reasons why sandpaper salesmen seldom smile." That fact is my alibi.

When Mr. Crockett extended the invitation to deliver a paper at this convention, I did all I possibly could to have it delivered by someone in the organization better versed in the subject of abrasives and the abrasive industry than I. But you would be surprised to find the number of bashful men connected with the abrasive industry. I never knew there were so many back doors to our home office until the day Mr. Crockett sent the invitation. Everybody slid out those back doors and left me alone. I am going to do the best I can as you have expressed your faith.

Mr. Mahan then read his paper.

STANDARD COSTS IN SANDPAPER MANUFACTURING

O. V. Mahan

Herman Behr & Company

OUR business is to make and sell sandpaper. That may sound like a simple proposition. I can assure you that it isn't.

Our work entails most of the usual problems which beset other manufacturers, and then some! In short, I can epitomize our daily life in three words: Sandpaper—Business—Problems.

Before I go further I must emphasize the fact that the word "sandpaper" is a misnomer. It is a title which has come down to us from the past—from a period when any kind of abrasive in grain form was called "sand." But in our day people talk in more scientific terms, and sandpaper has become abrasive paper or abrasive cloth.

And in the place of the old glass paper we have a large variety of papers and cloths covered with mineral grains that were unthought of not so many years ago. A sheet of abrasive paper or cloth is no longer a piece of sandpaper. It has become a tool

made especially to perform certain industrial and technical operations.

We manufacture sheets of several different sizes, rolls of many different widths and lengths, we make discs of many diameters, pads of many shapes, belts of different dimensions, and numerous other specialties of abrasive paper, or abrasive cloth, each in several general classes of minerals, and each in about one dozen different degrees of fineness or coarseness.

I can crystallize that description by mentioning that our price list covers approximately 4,000 regular items which our trade may demand from us almost any day, and there are many more that do not appear in our regular price list at all.

We sell our material to all sorts of users, large and small. You will find that abrading operations take place in the shops and factories of makers of furniture, toys, canes, musical instruments, tools, shoes, machinery, hats, doors, floors, and in the stores of hardware and paint dealers, in railroad and shipyards, and so forth and so on. It is not improbable that we deal with at least 200 different classes of manufacturers.

Our payroll contains several hundred names. We employ ordinary labor, skilled workers, highly trained technicians, and a large staff of sales and office people. We maintain twelve branches, besides the home office, from which our goods are distributed, and our customers and agents are located all over the world.

We have been at it since 1872. Fifty-five years this August! And our founder, Mr. Herman Behr, Sr., is still active. He is down at the plant every day. Many men in the upper circles and in key positions throughout the organization have records of from ten to thirty years' service. We are, you will observe, an old house as age is reckoned in this young country of ours. But we carry on in the modern way. We have to, to stay in business.

I wonder if by now I have made it clear that the sandpaper business is not a simple proposition? I can assure you that it is a real job, alive with manufacturing, sales and administrative problems, and that it involves a large capital and calls for the most intelligent management.

I was asked to talk to you about our manufacturing costs. I was asked also whether we use actual or standard costs.

We use standard costs. We have found that our business lends itself particularly well to standard costs. I might state, at this

juncture, that we use standard costs not only for pricing our production, and our inventories, and our cost of sales, but we use them as the foundation for a budget of expense and income. I can also add here that we feel well repaid for the time, thought and labor invested in our cost and budget accounting.

Cost accounting is a subject to which we have given a great deal of attention. It is a large and complex subject with most manufacturers, and we are not an exception to the rule. You gentlemen understand accounting, but in order that you may apply your knowledge to the specific business in which we are engaged, I must depart from the general and detail to you briefly the various operations and complexities which occur in our manufacturing.

We use three general classes of goods or raw materials: adhesive or binder to retain or hold the abrasive on the backing (in other words, glue), abrasive, and backing.

Glue is purchased in car lots by the pound. It comes in barrels. Before we can use it we must soak and cook the flakes. For a particular product we require certain standards of glue. We purchase several grades of glue at varying costs. We may use a tank of hot liquid glue as the binder for several kinds of abrasive papers and cloths. However, certain units of abrasive paper require more glue than others, and in the run of a certain kind of goods, more glue will be required to hold to the paper abrasive of a coarse grade than will be the case with a fine grade. It takes more glue to hold 20 pounds of grains to paper than to bind only 2 pounds.

Thus, you see, not every ream of goods is made with the same grade of glue, nor with the same quantity of glue.

But we have a laboratory, and we have records, and technicians, who can easily work out quantity standards and waste allowances. These are checked and rechecked, and deviations from standard are quickly discovered. Our accounting provides for an adjustment through a variance account for any difference between standard and actual glue consumption. So much for glue.

Something that I said about glue holds true with abrasives. One ream, of a very fine grade, may carry only 1 pound of abrasive grains and another ream, made of the very same mineral, but of a coarse grade may carry 25 pounds of grains.

The story of abrasives is a big one. Books have been written

on it. But the exigencies of this occasion compel me to be very brief.

To begin with, as I said before, abrasives are not sand. Abrasives are minerals, crushed, cleaned, and graded. Some of these minerals come out of the bowels of the earth where during the course of many ages Mother Nature fused them into hard rocks. Others are man-made, fused into rocks by powerful electric heat. Emery—flint—garnet are natural minerals. Silicon carbide and aluminum oxide are artificial minerals.

We buy large quantities of each kind. No two of them cost anywhere near the same price. Some come to us in rock form. The mineral rock is fed between the jaws of strong steel crushers and is reduced to small particles. These are now in turn passed over and through screens, over and over again, until the lot has been sorted into separate groups in which each kernel is no larger nor smaller than its companions in the same bin.

We also buy some minerals in grain form, but even these, although graded by our suppliers, are passed through our own screens in order to insure size uniformity.

When I tell you that we handle thousands of tons of crude and graded minerals you can easily vision that our crushing and grading division takes up considerable space and consumes considerable motive and manual power. It is in itself a factory.

In that department we endeavor to maintain a supply of various graded abrasives for the making machine. Furthermore, we must provide the supply in the grade proportion imposed by actual consumption, which is not so easy of accomplishment, especially when you consider that one ton of rock mineral does not always crush up into exactly the same proportions of fine to coarse grains. The result is often excessive in grades that are not wanted, and insufficient in those most needed. That means recrushing, regrading, and not infrequently wastes. A problem in itself!

To illustrate: For one particular kind of abrasive paper we must crush 100 tons of crude mineral to obtain less than 10 tons of graded abrasive. Of the remaining 90 tons, less of course a natural crushing waste, a portion is recrushed, but eventually a large percentage is of no use whatsoever to us.

On top of it all there is this other phase: One mineral will crush more easily and more rapidly than another. One will entail a larger percentage of crushing waste than another. Certain fine

grains will have to pass and repass the screens several times as often as other grades. One kind of grain will require more storage space and more care than another. All of which, you can readily appreciate, has an important bearing upon our final cost figures.

In this department our basic burden rates have been converted into tons, and, as with glue, differences between standard costs and actual costs are adjusted through variance accounts.

I may say here that we keep variance accounts for glue, abrasives, paper and cloth, in pounds, yards and dollars. Thus, in the case of raw materials we know for each class what variance is due to purchase price fluctuation, and what variance is caused by material usage.

Now for the third class of raw material, backing. We use paper and cloth and lots of it—carloads of it. To a certain extent we use also a combination of paper and cloth joined together as one piece material.

Here, too, certain standards in quality of backing are required for different kinds of goods. We buy several kinds and qualities of backings.

Paper, for instance, is purchased in different widths, and in different weights. We use goods which weigh from 35 to 130 pounds per ream of 24″ x 36″. Other basic qualifications must be considered also, and find their reflection in the purchase price. The price of paper is by the pound. Paper comes to us practically ready to use; which is not the case with cloth.

That is purchased at so much per yard, and requires much preparation before it can be used. Cloth really offers a set of difficulties different from any other operation. We purchase it in different widths and in different weaves. The market price of cotton goods fluctuates more than the cost of any other material we buy.

Upon receipt of our cotton goods they are processed in our cloth finishing department, where they undergo quite a transformation. Let me illustrate. Cotton goods come in short pieces. We require long pieces, thousands of feet long. Therefore we must inspect every yard, reject every defective piece, sew hundreds of pieces together to make one continuous length. Next we stretch, fill and dye the goods.

In short, we incur a waste in length through rejection of defective pieces, and then we make a gain in length through the process

of stretching, which, however, reduces the width of the goods. That involves, apparently, quite a complicated adjustment, but you would be surprised to see how easily and how close to formula it works out.

We buy nine different kinds of cotton goods, and convert them into 19 different widths of three differently dyed colors, and stretch and fill them in numerous ways for different uses.

This, too, is almost like a business in itself. But we have worked out quantity standards, waste, and stretch allowances, burden rates per yard, and so forth, and our variance accounts very nicely take care of all differences between actual and standard costs.

So much for the preparation of raw materials. Our backings and our abrasives are now ready for the making machine. Our glue is prepared at the machine itself.

We have several making machines, each qualified to make certain kinds of goods. We bring the glue, the backing and the abrasive to them and in a few hours we convert the stuff into long, endless miles of abrasive paper or cloth, of varying widths, of varying grades. Some goods require a longer time to dry than others. Some call for more attention than others. Again, some entail more possibilities for spoilage than others. One machine is capable of greater speed than the others. All of which I mention to give you the complete complex picture. It is not just a simple matter of cost tabulation. But it has not been found so very difficult either.

Here our burden rates are converted to a standard ream or roll basis. Production standards and wastes are based upon the actual performance of many previous runs. Eventually, after placing standard costs on one side of the ledger and the *actual* costs on the opposite side, we bring out the differences which are posted to the various variance accounts.

In short, we have variance accounts, as I told you before, to take care of differences between purchase price fluctuation and material usage of raw material, and now I have shown you that we employ variance accounts to tell the story of manufactured goods, as well as for each major operation of labor and burden.

The latter is particularly interesting because it is shown in two general ways. First there is shown the contrast between actual burden and that budgeted. Then is shown the variance due

to performance. On the one hand the earned burden at the basic burden rate, per machine or man hour; on the other the total process burden at a rate per ream, to show the efficiency of operation. This brings out abnormal operating conditions if they exist.

But I must finish my story of manufacturing. From the making departments the goods go down to our finishing department. Here the long rolls are cut down into commercial rolls of standard lengths, into various widths, or into sheets of different dimensions, or they are converted into special shapes.

That is in disc form or diamond shape to be used in accordance with the demand of the operation for shoe or automobile or metal work, or for the hat trade and others. As a matter of fact, we do not know of any business, practically, that does not use sandpaper in some form.

In this department we are presented again with a different brand of complexities. Due to the dissimilarity of sizes, and weights, it is impossible to cut and pack each kind of goods in precisely the same way. That is again due to the various shapes and sizes of packages demanded by the various industries, in accordance with kind and grade used.

Coarse and wide goods are heavier and more bulky than fine and narrow goods. That, therefore, excludes to a large degree automatic and mechanical packing. It is largely a hand operation, varying with each kind of material. But for accounting purposes, we have converted it all to a standard ream or roll rate, and we get along pretty well with it. Our standard ream is made up of sheets 9″ x 11″, 480 sheets to the ream.

The next step brings the goods to the stores or shipping division, which is theoretically outside of the province of factory costs.

What I have tried to show you, gentlemen, is that in a manufacturing business involving such widely dissimilar operations as abrasive crushing and grading, and cloth finishing, and sandpaper making, and sandpaper cutting, we have found it practical to use standard costs.

But I want to impress this on you, too—that though we are committed to standard costs, we are not committed to keep them fixed indefinitely. They remain fixed only so long as the standards represent normal conditions. Just as soon as the difference between standard and actual becomes pronounced, we investigate and revise if there has been a permanent change in the construction of

the product or the method of manufacture. By this I do not mean that every few days or weeks we revise certain items. No—but about twice each year we make inventory adjustments following physical check-up, and at that time we incorporate all advisable revisions.

Nor are standards altered by a single man. We have budget committee meetings in which sit representatives of different divisions in the organization.

This committee is divided into an executive committee and a sub-committee. The executive committee is made up of first and second vice-presidents, secretary, and assistant treasurer. The sub-committee is made up of our general sales manager, our factory manager, our production manager, our auditor, and chief cost accountant; and the secretary, and assistant treasurer, representing the main committee. The proceedings of the sub committee are boiled down into a report of recommendations which is submitted to the executive budget committee which is the final authority.

Any changes in standard costs must be sold to certain members of this committee before they are acted upon. And incidentally I may add here, that variances, budget excesses, etc., are submitted to different members of this committee for investigation and recommendations.

CHAIRMAN: Now you can have all the rest of the afternoon, or as long as you want, for discussion. If what I was told this noon is any indication, there is a lot of room for it, and a lot of people want it. It seems to me one of the important points to bring out is the fact that here are some men who are definitely of the opinion that inventories ought not to be stated at standard, and others think they should. I think that is one of the most important points to discuss. I don't think it can be settled, but I would like to have that subject brought out a little more in detail. You can ask questions of any of the men who were here this morning or these men who have spoken this afternoon.

MR. MELFI: I would like to ask the gentleman representing Behr & Company whether he takes care of the variances throughout the year with the standard cost, and then sets a new standard on which he takes the inventory.

MR. MAHAN: I might say that we take a physical inventory twice a year, on December 31 and on June 30, and we revise our standards and make our adjustments on the new basis, if justified, twice a year.

MR. MELFI: In others words, you don't take inventory on the adjusted basis?

MR. MAHAN: We take the inventory at the adjusted basis, yes. That is, we figure it at the old basis, and then at the new basis, and we make our adjustment accordingly.

MR. MELFI: Do you close your books on the old basis? The point I want to bring out is this: suppose in your actual operations for the year, you arrive at the cost of goods sold, and the variance is about $100,000. In other words, due to efficiency your actual cost is $100,000 below your standard cost. When you price your inventory do you price it at cost?

MR. MAHAN: At the actual.

CHAIRMAN: I think that question was misunderstood. I know exactly what they do; that isn't quite correct.

MR. MAHAN: I might say I didn't quite follow the second part of it. As I stated previously, we price our inventory at the standard. If there is any adjustment to be made on the standard due to performance, we may adjust our standards if necessary, as stated, twice a year.

MR. MELFI: That brings it back to cost.

MR. MAHAN: On the new standard.

CHAIRMAN: We start the standard at the beginning of January 1, and for the first six months we operate and carry all inventories at that standard cost. If after we have taken the inventory at June 30, we then decide from a study of our variances that there are certain products on which the standard should be changed, because of normal conditions, we may then make a further adjustment of that inventory only on those items, to bring those to the new standard. We would only do that providing, of course, we have something in stock. We wouldn't go back to adjust the cost of sale.

Here is a certain kind of sandpaper, and the standard cost of that is $2 per ream. After June 30 we decided we have changed

the method of manufacturing, or the structure of the product, and the new standard cost is $1.80 per ream. We would then adjust what we had in stock down to $1.80 a ream, and we would keep that standard until we decided the standard on that particular product ought to be changed again.

MR. MELFI: In other words your standard is practically your cost.

CHAIRMAN: Yes, variances are written off to profit and loss as fast as they are determined every month.

DR. CHAS. REITELL, *Sheppard & Company, Pittsburgh, Pa.:* I have been following these four papers today very closely, and in following them I find the expression used four or five times, "standard costs and the cost accountant are serving the management." I want to emphasize as forcefully as I know how,—that is an erroneous statement. As soon as we develop standard costs, and operate them, the cost man *is management.*

I want to give you two definite illustrations, from the installation of two standard systems I am working on at the present time. One is a very small plant, employing about 75 men, making curb signs for the gasoline industry.

After we had the standard costs running for six months, the general manager of that plant who two years ago knew nothing whatsoever of even double-entry bookkeeping, came to me and said, "I see I have to learn something about cost accounting."

At the present time he is the real guiding person in the cost accounting in that plant, and it has been developed by this sort of a thing that we are discussing today—namely, the operation of standard costs.

I notice the Perfection Stove gentleman called our attention to the fact that the foremen really were the ones that were forcing through the policy for improvement where there were bad variances from standards. I would like him to tell us what the superintenddents of the plants are doing, as standard costs have been developed. I am wondering if those superintendents haven't changed their functions and their activities considerably by virtue of the fact that there are cost controls.

The other company is a much larger company—a contracting firm; a firm fifteen or twenty times as large as the small plant I just called your attention to. We have developed standard costs

over a period of three years, and I am finding that the general management, and the superintendents are not only interested in finding out the costs in their plant, but, if you please, they have registered in cost accounting courses in the university.

In short, as I see standard costs developing in a practical way, it is forcing upon the managers the tremendously important job of knowing costs, knowing the technic of costs. I venture the guess that 25 years from now we cost accountants will not be serving management, but *we will be management.* Cost clerks and bookkeeping machinery will grind out the data. We will control, we will help shape policies, and we will see that variances from standards will be our job to measure, to improve, and to eradicate.

If the two gentlemen who have given us these papers will tell us what new activities and what new functions have come upon both foremen and also the higher-up executives, by virtue of the installation of cost accounting, and more specifically standard costs, I believe we will see and see clearly how cost activities and cost functions are now a part of management—rather than just serving it.

MR. SKOVE: I agree in a good measure with the gentleman from Pittsburgh that the use of standard costs in our plant has made all of us step along a little more lively than we did before we had them. I think our experience was this: that five or six years ago we produced practically all of these records in somewhat similar form, but we didn't get much out of them. We published statements and promptly put them away and used them for history.

I think it is absolutely true that our factory executives and foremen know a good deal more about costs now than they did then. They don't attempt to say they are experts or ready to take over a complete set of books, or anything like that, but they do have in mind the things they are responsible for in the factory. One of our problems right now is that one plant is only partially occupied. I don't think that is anything new in the United States. I venture to say if the facts were actually known, probably only 40% of the productive capacity of this country is used today.

The problem of that unused equipment and space is very vividly brought out each month when we review these statements, because it shows the idle plant account; it shows the machines not being used, and it shows the floor space that is not being used. It keeps

the executives working all of the time to find out how we can add to our lines or take on some new business, or something that will take up this capacity.

MR. MAHAN: Picking up the bone thrown by the gentleman from Pittsburgh, I can only second the remarks made by Mr. Skove, and add that previous to the installation of standard costs and the budgeting system at the Behr plant, the cost department was a little group of fellows stuck over in the corner. Not much attention was paid to the results of their labors but since the installation of standard costs and our budgeting system, it has made our whole plant practically a cost department. All of our department heads, from the laboratory right up to Mr. Behr, Jr., who is the active head executive are interested in all of the work that is being done by the cost department, and are very much interested in the figures that are revealed in the adjustments, and budget variances revealed through the adoption of the budget and standard costs.

H. W. MAYNARD, *Gillette Safety Razor Co., Boston Mass.:* Professor Reitell has taken in a good deal of territory. The matter is so important that I feel obliged to challenge him.

The function of cost accounting, gentlemen, is not the function of plant management. When the cost accountant has reached a position where he performs managerial functions, he ceases to that extent to be a cost accountant.

As I size up our job, we determine figures and facts. We interpret those facts and figures, and in presenting them to the management we point out the high spots—the cases where accomplishment is not good enough or exceptionally good—for them to take action upon. There our job ceases. It is the manager who then uses those figures, to make improvements in the factory.

The figures must be usefully employed by the manager before the cost accountant's job is completed, and unless the cost accountant has ample managerial support, unless his figures are used completely and fully, he is licked.

L. A. BARON, *Stutz Motor Car Company, Indianapolis, Ind.:* I would like to express a thought which I have discussed with several men at this convention, since we have started this discussion on standard costs. I cannot conceive of a figure being a standard cost. When we say standard cost, I think we are wrong. Cost is cost.

As an illustration, in Indianapolis I pay for Camel cigarettes 25 cents for 2 packages; that is cost. Last night I had to pay a quarter for one package; that was cost. Is either one a standard? The advertised standard for Camel cigarettes is 15 cents. Where are we wrong? As I see it, it should be termed cost standard, which would be 15 cents per package. What is the function of a cost accountant? My conception of it is that we are there to tell the management whether or not they are operating at a profit and where the loss or gain occurs. We set a budget, or a standard for all costs. We are about to perform an operation or make a part. How much is the operation or part going to cost us? The predetermined figure is the standard we set up. It isn't a standard cost; it is a cost standard. How near are we going to come to that standard? When we have completed that part we have got the cost of it. We compare the cost with our cost standard. We know whether we have made standard on that part but the actual cost is the value of that part for us. I would like to have some expression from somebody as to whether my opinion is right. Is it standard cost or cost standard?

As a claim for my contention along the line that we are not using standard costs except as we use them for budget purposes; on $11,000,000 worth of labor and purchases for the year 1926, our actual physical inventory on December 31 was ¼ of 1% off of the book valuation. That is actual costs were used. If your standards costs can come any closer, I would like to know about it. I might possibly do better by setting up standards costs instead of costs standards.

CHAIRMAN: Mr. Bass, you ought to be able to answer that question and start a discussion on it.

MR. BASS, *Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa.:* I am very much interested in the question of standard costs. This gentleman is verging a little bit on a question which I think confuses many of our managers when we try to discuss standard costs with them.

As Mr. Crockett remarked this noon, very often our managers feel a little bit offish toward standard costs because they still have an obsession that the only cost proper for use is what, in their minds, they term an actual cost—the cost that all of us used to play with and practically live with. But the more I have gone on in

this cost game, the more I have come to feel what we used to call actual cost was far from representative of the true "actual" of the item in question. What we called an actual cost was often the normal cost of manufacture plus such accidental congestion of abnormal costs as might exist in the shop department as a certain item was going through. These abnormal costs were not of a nature belonging to any specific item of manufacture but represented costs of mismanagement which should be evenly absorbed in cost of all items manufactured.

The standard costs, as we are considering them today, are much more truly the actual potential costs of manufacturing certain items, than the old cost we used to build up through that time worn device known as the stock order cost plan. The reason for adopting standard costs becomes apparent when we consider the purposes for which we want a cost.

As I conceive it, there are three main uses that we make of costs; first, to give our selling department help in establishing their prices; second, for setting up our inventory investments; third, for costing our sales. As I analyze each of these, there is only one kind of cost that is going to satisfy that situation and that is the standard cost we are talking about now and possibly I should add that standard costs as I think of and administer them are cost standards plus certain normal percentages for variables arising from lack of ideal management. We don't want to give to our sales department, as the basis for setting selling prices, a cost of, let's say, the chair you are sitting on, which might be made at a factory equipped to turn out 10,000 a month, but because of business conditions they turned out about 100 last month. Shall we then say to the salesman, "That chair is costing us about $150 a piece, go out and sell it."

You would say, "No." We must give to the sales department the normal cost of manufacturing that chair under normal conditions, which is what we are generally calling standard costs today. In the same way, you wouldn't want to set up that chair in your inventory at $150. It would be a false inventory. Likewise, to cost sales at such a figure would mislead us in judging the true trend of manufacturing costs or the advisability of continuing such items in manufacture. I think we can all do a good job if we carry to our managers a little more education regarding the fallacy of the old idea of the actual cost, such as we used to secure from the

stock order system and even from many process cost systems, for as I have said their stock order cost often represented cost of manufacturing, plus a lot of other things which in some instances had nothing to do with manufacture, and should have been charged off to the profit and loss accounts as something other than manufacturing cost.

CHAIRMAN: The suggestion has been made that if Mr. Charter Harrison is in the room, we would like to hear from him on this subject of standard costs, whether we should carry inventory at standard or actual. Is Mr. Harrrison here? (Not present.) Is Mr. Camman in the room? (Not present.) I hope they haven't both sneaked out. The fellow who suggested that had better go dig them up. We will be glad to hear from them.

I said this morning I wasn't going to express my opinion on this subject myself, but I think it is too much for me; I can't keep still. I am very much in favor, as perhaps all of you suspect, of expressing inventory at standard costs. I never saw an inventory yet at actual costs that I couldn't shoot so full of holes, as far as the value of the inventory was concerned, as to make it look like a sieve.

The statement has been made we don't want to state inventories at standard cost, because we don't want to take a profit until we have sold the piece of goods. I would like to ask how many of you ever find actual costs coming out at less than standard? I mean a scientific standard, not an average. We are not talking average costs but real standard costs. When you set standards properly you almost never reach them. I don't say set an impossible standard, but in 999 cases out of 1,000 your actual costs are more than standard costs. When you state inventories at actual, you have, according to your argument, a profit in that; you have something that doesn't really belong in that. If you state them at standard costs instead of having it as an inflated inventory item, you are stating them at a more conservative figure than if you stated at actual. You might come back and say it is just as much of an error to understate inventories as to overstate inventories; at least you will agree it is more conservative to keep them down a little bit. That is my opinion on standard costs, so far as inventories are concerned.

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* What do you do with the difference between the standard and actual?

CHAIRMAN: We write it off profit and loss.

MR. BARON: I would like to hear an expression from someone as to cases where the actual is less than standard. If you set a standard, what figure do you use to price your inventory? Actual or standard? Unless your organization is stagnant, your actual should be lower than standard. In our plant our engineering department is constantly striving to find ways and means of bettering our product. We set our costs twice a year based on engineering changes. These costs are continually rising and falling. I have in mind a certain change that was made just about thirty days ago; there were over 100 individual pieces affected in the change. The net saving in these 100 pieces, in direct labor and material amounted to 81 cents per car. We had set a standard the first of the year which included that 81 cents. If we were to take inventory at so-called standard costs, we would be inflating our inventory. The change in design brought our per car cost down. In other words, the cost of our product became cheaper by changing the design. In that case we are justified at the end of June, with any finished cars we have on hand, taking inventory at our actual cost. Am I right or wrong?

CHAIRMAN: Wrong. The minute you made that change you had a new standard or should have had a new one. What you have done is, you have not revised your standard to meet a change in fundamental manufacturing conditions. Your old standard didn't exist any more.

MR. BARON: We would change the statement every day in that case.

CHAIRMAN: Maybe you would if you are constantly changing your method of manufacturing. You have an engineering department that says a certain part of your car must be made from a casting. You can buy steel casting at so much money. You set up a standard. The standard material cost is practically fixed. There may be slight variations on the purchase of that, and there might be slight variations on the uses, because you wasted or spoiled more than you thought you would. If you find some

method by which you reduce your waste from 20% to 10%, you have improved your standard. You have a new standard and should set up a new standard. It is exactly the same with labor. You have a time study department, and they set a piece rate or standard time of performing. Your workman may achieve the standard set or he may even improve on it, but you have established a standard time. In the improvement through different methods you have a new standard or should have one. The same is true of burden. You probably establish a normal burden rate the same as the others.

MR. BURKE: On the difference you write off, that decreases the value of the inventory and is marked off to profit and loss. Then you have interest on investment in the inventory. That increases the value. Is that how you square up with the internal revenue officers?

CHAIRMAN: I don't see that your question has anything to do with it. Do you want to discuss it?

MR. BURKE: If you write it off, will the internal revenue people accept standard costs?

CHAIRMAN: We have never had any trouble on that.

MR. BURKE: It is a point to be considered.

CHAIRMAN: Not necessarily, because you can have standard costs and make up your tax returns with the old-fashioned method. I do not think the internal revenue department conforms to the best standards of accounting in all cases. I think probably everybody here will agree with me on that.

ALFRED S. SEAR, *Wadsworth Watch Case Co., Dayton, Ky.:* I would like to ask one question. I have no doubt at all as to the virtue of standard costs, but I would like to ask these two gentlemen who read the papers this afternoon what was their experience on the cost of getting costs, that is, between actual and standard. It costs a lot of money to run an actual cost system. I would like to know what their experience has been, and what saving they made, other than the saving of manufacturing the product. What has been the saving in the cost of getting costs?

MR. SKOVE: It doesn't seem to me that we can begin to answer that question for every industry; that is some problem. All

I can do is tell you what we have done or what we are doing now. We have a total of 34 people in the cost department. We have two people on the payroll rate checking; eight people on figuring time tickets and labor distribution; five people on pricing requisitions and making job records, machine records and taking care of the factory ledger; seven people on estimates, making new estimates on new products; and ten people that I haven't classified here, at the plant out in the east end of town; a total of 34 people.

I know from previous experience, over the last five or six years, that we haven't as many people in the cost department now by any means as we had previously. In other words, we have been able to carry on with standard costs, and we have been able to improve in the cost department just as we have in the factory. That isn't always due to the management, but to new equipment that helps us to get the work done a great deal cheaper.

We have put in new payroll equipment that cut out a lot of operations in making up the pay, and the whole thing reflects, of course, back through the cost department. I wouldn't say in our particular case we have a single person more in the cost department than we would have if we didn't operate on standard costs. I don't know whether that means anything to the other industries represented here today. I think that is a problem that has to be gauged by the industry itself, unless you can make comparison directly with some other concern that is producing similar products.

W. D. BRINTON, *International Harvester Co., Chicago, Ill.:* How many employees do you have in the plant?

MR. SKOVE: I think I mentioned we had approximately 1,500 people; that varies of course. It may drop to 1,200 some months and be up to 1,800 some other parts of the year.

MR. MAHAN: I might say from our own experience, so far as the personnel of the cost department is concerned, since we have been able to shave off the old whiskers of the old actual cost system and installed standard costs, we have distributed the clerical work in the office on a more even basis. While it was necessary for us to put on one extra man at the beginning, this young man left on July 1; we haven't found it necessary to replace him. Since the adoption of our standard costs we have found that it was

not necessary to increase permanently the personnel in any of our departments which have a bearing on our cost department.

In our factory alone, while we have not as many employees as Mr. Skove, we have 350. In our cost department there are just five.

CHAIRMAN: I might say, so far as Mr. Mahan's company is concerned, they are getting infinitely more into cost information than they ever did before, because of the complexities of the manufacturing problems and the great many varieties and kinds of things they make. They always conceived it impossible to attempt anything like getting actual costs on everything they made. Only occasionally did they really check up and get the cost of a certain order, or certain run going through.

At the present time, having established standards for everything, they do get every month a comparison of actual and standards for absolutely everything they make. As Mr. Mahan brought out, the whole trick of standard cost is to decide at what points, what operation, what products or what functions you want to check actual to standard. You may classify your work, as his company has done, to certain operations. You may classify and group according to products, and you get a variance of that total group of actual against standard. They have information about everything they make, which they didn't have before. They have that, as he said, without adding a single clerk to their cost department payroll.

N. J. BOWNE, *The De Laval Separator Co., Poughkeepsie, N. Y.:* It seems to me somebody is putting over a pretty good piece of advertising here for work to be done by public accountants. Either the cost departments of the two companies represented by these gentlemen were in pretty bad shape before they started to work on standard costs, or else standard costs had best be taken more seriously by a lot of us. I am inclined to the latter opinion, but I think it is a very important point. I believe many executives are keeping away from standard costs because they think it is going to double their clerical force.

It seems obvious if you have to continue your actuals and have standards also, it is going to necessitate more clerical effort, and that means more expense and a higher cost of cost accounting.

I should like to hear from other people who are going through

the same procedure, and find out whether these are two especially selected speakers, or whether they are really representative of what is going on.

H. E. HERTING, *Barber Greene Co., Aurora, Ill.:* We don't have a very large plant. We have had limited experiences in standard costs. Are there any gentlemen here who doubt the value of the budget? I would like to ask the gentleman from Indianapolis, when your engineering department makes one of the changes, don't they decide on how much saving it is going to make, and determine what the change will cost?

MR. BARON: When we decide to put a new type of automobile on the market, the engineering department gives the cost department all the possible data concerning the parts and innovations from other types of cars we are marketing. Through the purchasing department and other sources we work up what we call standard for that type of automobile. We don't call it standard cost; we call it cost standard. On that basis we set a selling price on the car and start manufacturing under the general process and operations necessary to complete it.

The selling prices are sometimes set 60 or 90 days in advance of the car getting on the market. We must do this in order to furnish data to the advertising department so that they can get our advertisements into current literature. We have to forecast the cost a long way in advance on each different type of car.

Our time study department is constantly revising labor prices on our operations. I might say in our plant we are not using the standard time system, we are using piece-work prices. Under such conditions, you will always have constant revision of labor costs.

The purchasing department is always on the alert to purchase at lower prices but often has to pay more for some parts than the figure used in our predetermined cost standard.

Actual costs of labor and material for each type car is figured each month and the deviation from cost standard is analyzed to to show whether it is caused by:

Purchasing department buying at higher or lower figure.
Revision of piece-work prices.
Change in process of manufacture or engineering change in design.

Actual costs are used to relieve current inventory of cost of sales.

MR. HERTING: I think that brings out the point that they do use standard costs at Stutz Motor Car Co. And the fact I wish to emphasize at first, is that a number of companies use cost standards without realizing it. But there is as much difference in these cost standards as between the police forces of New York and Chicago.

Is there anyone present who doesn't appreciate the value of predetermining costs? Who would attempt to build a home without first determining the cost? And then you wouldn't live in it long before you knew how much more the actual cost was than your original estimate.

Now the problem of recording the standards and collecting variations is just a matter of simple bookkeeping. And the extent to which variations are followed up will depend largely on local conditions of shop efficiency—how far along the company is in their cost reduction program. But in any case, the effectiveness of cost standards as tools of operating control will depend to a large extent on how accurately the standards are set, and by whom.

Clerical savings can undoubtedly be effected by the use of estimated standards in a repetitive industry, but for the greater advantage of cost standards, effective control cannot be obtained to any great extent without the aid of scientific standards. That is, standards which represent quite accurately what each item should cost.

What cost accountant or human being (sometimes the same) is capable of setting such standards by himself for all phases of the business? It must then be a problem of organizing specialists in each branch of the business to set standards.

I wonder if there aren't a large number of companies today, who still operate with weak standards? For that reason, I believe that there are a good many present who would appreciate hearing some successful experiences in organizing a force and for setting accurate standards, and using these most effectively—that is, to cause the largest increase in net profits possible.

CHAIRMAN: I will be glad to hear from somebody else, but I might remind you that Mr. Mahan told you how his company did it. They have a committee made up of the sales de-

partment, the engineering department, manufacturing department and accounting department, or various representatives who control those departments, and the purchasing agent is there too.

The purchasing agent, for instance, is given the job of setting a standard at which he thinks he can buy raw materials; that is depending upon market conditions. That is probably one of the least important parts of the job.

The time study department, represented by the factory, say, "We can produce this particular article in this operation at a certain rate per hour or at a piece rate," or whatever the basis may be of determining the labor cost. That is done by a careful time study of the operations; of course, that is checked to the actual payroll for that operation to show whether the standard time that has been set is reasonable, and the operators can make a fair living wage on it. The burden is handled in the same way. The engineering department, of course, are more actively interested in saying, "This article can be made this way. We must follow these operations in this sequence, or we can devise some better methods of making them."

That is the way standards are set in that plant. The cost man can't do it; all he can do is organize it, but he can perhaps direct these men to the kind of information he wants and the kind of standard he must have. Probably the big job is this: to impress upon these men that when you are asking them for standards, you really mean what you say. You will probably find, when you start out, that in order to get rid of you, they are giving you a wild guess rather than an answer based on scientific study. You will find you have some serious variance. When you go back and ask for an explanation, they will put you off with an alibi, "We have done the best we could." If you have the management behind you, you can impress upon them the fact that you don't want guesswork, that you are willing to give them all the basic information they need, but with that you want some real scientific standards.

The reason I had Mr. Mahan go into so much detail about the operation in his plant was because he has one of the most complicated problems of manufacturing and engineering that I have ever encountered, and that is saying a good deal. Yet the minute we got the management back of us, we had no difficulty in getting the engineering and the chemical laboratory, the time study department, purchasing agent and sales department to establish for

us, first, sales quotas, and then standards for all of the operations, and all of the various things they do.

MR. MAYNARD: As I have listened today to these five very interesting papers, I have been impressed more and more with the reliance which is being placed upon the manufacturing budget as a precise instrument of measurement, to determine whether the manufacturer is getting a dollar's worth of results for each dollar's worth of expense. I am going to offer a contribution, because the company with which I am connected is experimenting along certain lines which are a little different from any I have heard presented.

Our budget for manufacturing expenses has no relation at all to the quota or forecast of sales. It is not a forecast of what we expect to accomplish during a given period.

Instead of setting up an anticipated budget for the year's business, we start with a normal budget based upon normal output. No matter how the production varies, our problem is to determine, after each month (or near the end of the month, when we know closely what the production is going to be), the expenses which should have been incurred. We wish to be able to determine (month by month, center by center, expense by expense in major groups) the actual expenses which should have been required for the actual output for the month, and then match up in detail the actual with the standard or normal. When you approach a foreman and say, "Bill, you overran $100 on supplies last month," you want to be mighty sure that he did overrun, and be able to tell him exactly how much he should have spent for the production he turned out.

That brings in a special problem. Some expenses are wholly fixed, such as taxes, insurance, depreciation, general supervision, the principal foremen and their assistants. Such charges may be said to have a zero variability. Some items of burden are wholly (100%) variable with the production, just as direct materials and direct labor are 100% variable. (We segregate from ordinary supplies a class of principal items, which we call indirect materials, which also should vary almost exactly with the production.)

Between these two groups are items which do not fall in either one class or the other. Supplies and repairs do not vary 100% with the production. They have a partial variability; it may be

80, 70 or 60%; it may differ in different centers. Fuel has in part a seasonal variability. Other items have a stepped variability,—as production is increased or reduced, at a given point one or more handlers or clerks should be taken on or laid off, as the case may be.

We are experimenting with this method. To be acceptable, the monthly calculation must be performed promptly and economically, once the normal budget and the method of variation are established. We are also experimenting with the percentages and other factors of expense variation. I offer this method as a suggestion, because if someone has gone farther than we have and can help us, we want to know it, and if we can help someone else we are glad to do it.

E. J. HANSEN, *Edison Electric Appliance Co., Chicago, Ill.:* I would like to have Mr. Segur give us some ideas on standards for labor.

A. B. SEGUR, *A. B. Segur & Co., Oak Park, Ill.:* I am not so well acquainted with the standards for material purchases. I have had a little experience in getting exact standards for direct labor, which may possibly answer some questions. We have now learned that within reasonable limits, the time required of all experts to perform a fundamental motion is constant. Therefore, if you know accurately what the man must do on the job, you know the standard cost of that particular operation.

The difficulty that we find in the average plant is that this standard cost is generally only about one-quarter of the actual cost on the operation. In order to get the job down to that standard cost, a great deal of education is necessary to the foreman, the superintendents and tool setters.

To my mind, the reason that the standard costs of labor, set in a great many of these cost systems, check out so closely is because if the man is using a constant motion on a particular job, he cannot vary the output on that particular job. All the talk about a man speeding up and going at double speed or treble speed is all bunk; it can't be done. There isn't a man in this room that can vary the time it takes him to write his own name. There isn't a man in this room who can vary but one-hundredth of a minute, the time it takes him to load a pencil. There isn't a man in the room that can vary over a ten-second period on an operation so simple

as tapping on a board. Then how do you think an operator is going to vary an operation so complicated as a punch press job, an assembly job or any other industrial operation? Of course, when they change their method they change their speed, and that is the only way they can change their speed.

Education in a plant is slow. When you are taking the standard costs set up by time study and by other means, you are simply taking the performance in that plant. So long as the method does not change, in other words, so long as the education of the superintendent and the foreman and the die setter do not change, of course the cost can't change. So that if you do not get the standard cost on labor from the original estimate which you set up the first time, you are almost sure to get it about the second or third trial, because then you are able to get average conditions.

Then if there is any variation from that standard, you simply know it is because of some factor that entered into the material or entered into the constants you used, that you did not know the first time. The idea of attempting to find out what the cost of an item is by taking very accurate reading of output from day to day and from hour to hour, and then going through elaborate distribution of overhead on those jobs looks worse than nonsensical, when you consider the fact you are dealing with a scientific law that is beyond the power of either the foreman or the workman.

You are much more correct in taking an estimate that is checked by performance on the job than you are in using any of these fine-haired plans which arrive at the same thing anyway. If they did not arrive at the same thing they would be wrong in themselves.

BOYD R. MAXWELL, *Armstrong Cork Co., Lancaster, Pa.:* There is one question I would like to ask; I don't know whether I got this straight or not. Is it true that the standard cost reflects the best possible practice, and that this cost would be as low or lower than any actual cost, so-called actual cost you could arrive at?

CHAIRMAN: Yes.

MR. MAXWELL: That cost would be used in fixing a selling price. If you were to fix a selling price on the basis of that, in many cases wouldn't you be giving the management or the sales manager a cost on which he could not show a profit?

CHAIRMAN: Perhaps I shouldn't say the best possible practice, but the best reasonable practice in your own plant and under ordinary conditions, under normal conditions. In arriving at a selling price you have so many other things to take into consideration besides manufacturing cost. You are always going to have an item of unearned burden and idle time that has to be reckoned with. If you are making different products, you will have them on some and not on the others, or at least not as much.

MR. BURKE: Can you define reasonable? What percentage is the best possible practice which you say is reasonable?

CHAIRMAN: No, I wouldn't attempt to do that. It certainly wouldn't be alike in any two plants. I think you have to determine that. So far as your labor is concerned, that would be a very scientific standard; that is based on the methods and machinery and the equipment you may use. It is very easy to determine the best possible standard of material. When it comes to burden, that is quite different. That would probably be different in almost every plant, depending on the general efficiency of the whole management. I am not arguing that you should set up a standard so far above that it isn't possible to attain.

MR. BURKE: The reason I asked, is that there are very few industries operating above 80%. If you are going to set the standards at a very high rate, and you are operating at 80%, you are not going to get the profit you anticipate.

CHAIRMAN: You have introduced an entirely different problem now. There is quite a difference between operating your plant at 100% capacity, and operating such a portion of your plant, as you do operate, at 100% efficiency. Those are two entirely different problems. One is the problem of unearned burden or idle capacity, and we know there is hardly a plant in the country that is operating at 100% capacity, running all the departments with as many men and as many machines as they could. They never run at 100%.

That percentage of what is reasonable is certainly different in different industries. I know Mr. Stevenson has discussed that question a good many times. If you can possibly determine that, you would set 100% capacity for any plant on the basis of the state of that industry, knowing what the consumption of the coun-

try was of the product and the capacity you had. If the total consumption were only 80% of all the plants, you would set 80% and scale it down, since no plant can run all of its machines all of the time.

The question I thought I was answering then was: having determined the rate at which you ought to produce any product in any given machine or any operation, what would you expect any machine or operator to produce at 100% of efficiency? I don't know that percentage of efficiency.

S. M. FARISH, *Northern Electric Co., Ltd., Montreal, Canada:* Apparently you have to go to Canada to get one of the exceptions, to get the standard set. I was so fortunate or unfortunate last year as to have a credit balance in the variation account and also in the burden account. Being conservative we set up certain reserves, in our financial report at the end of the year, to take care of the inventories. I would like Mr. Crockett's opinion as to whether we were right or wrong.

CHAIRMAN: I can't conceive of setting for myself a goal on anything, and after I have beaten that, saying that is still the standard at which I ought to shoot. The minute I have done that I have established a different rate of efficiency. It seems to me what you may have done is this: you may have run your plant overtime, and that again, it seems to me is quite a different problem. You have over-earned your burden; that is quite possible. You have set your normal capacity, and you have run more than that. When you get to an individual standard cost, it is going to take one casting or one piece of material to make this part, and you can't make it with any less than that. The only possible way you can exceed your standard on material is to reduce the percentage of waste. You can set a standard of the price you are going to pay for raw material, and you can considerably better that. Market fluctuations may enable you to buy that material at much reduced prices. Then you have new standards.

The minute the market changes you have a new standard. If you do not want to change your standards immediately, all well and good, when you have actually accumulated a large profit because of the reduced price, I say you are simply a little bit slow in changing your standards.

When it comes to labor, as the gentleman just said, you make

a pretty careful study of what one man or one machine can produce in a given time. I don't believe you can better that very much unless you change the method of doing it. When you have changed that you should have a new standard. If you set standards carefully you don't continue to produce the individual article at better than standard, because when you do, you have done something quite different, and you have set for yourself a new standard.

MR. FARISH: You change the standard if you get an abnormal run which is something that is unusual.

CHAIRMAN: What do you mean by abnormal run?

MR. FARISH: You might set what you would expect the normal run to be on a particular product for the year. Under unusual circumstances you might get an abnormal run for three or six months. Would you change the standard?

CHAIRMAN: I wouldn't. If I set the normal run at 1,000 pieces and I figured the standard costs on the basis of the set-up time for the machine, and then got an order for 100,000 pieces, and only had to set up once in all the time, I would certainly save something, but I don't think I would save very much.

I am going to try in a few minutes to crystallize what has been brought out here today.

I think it is very evident that standard cost is a very large subject and we don't know very much about it. We have only begun to scratch the surface. There is wide difference of opinion on how much and how little we should use standards. We haven't yet settled the question and I don't suppose I shall live to see the question settled as to whether we should state inventories at standard or actual. I would like to make this thought clear. Standard costs are a very useful tool for a good cost accountant. I think that a lot of cost accountants are afraid of it. They hear it expressed in talks of standards on material, labor burden and this and that, and begin to get the idea that it is rather a fearful thing to take hold of or have anything to do with.

I think one thing that has been brought out today is the fact that you can have standards for material and standards for labor and for burden entirely separate. You don't have to have standards for everything. There are lots of companies using labor and

burden standards effectively who don't attempt to introduce other standards, particularly concerns that use raw material that fluctuates every day with the market. If the selling price varies with raw material, they might establish standards for only labor and burden. Everybody can't use the same kind of tool with equal effect.

You wouldn't give a youngster of a very few years and little experience a very efficient tool to work with. He wouldn't do anything with it, he would only make a botched job. In other words, he must be trained to use the tool. Therefore, don't stay away from standard costs because you think it is a very efficient tool and your plant isn't organized to get results from it. Try it out on one thing at a time. As Mr. Otto showed this morning, they started out with what they thought was the most important thing and they are using standard burden very effectively in the setting up of a budget and measuring actual expenses by that. Later on they will go into something else.

I just want to say in closing that if you had as much pleasure and as much kick out of this session today as I have had, I am more than amply repaid for the little time and effort I have put into organizing it. The men whom I have gotten as speakers did a lot more work on this thing than I did. They did all the work; I simply asked them if they would do the job and I gave rough outlines of what I wanted.

In behalf of the Association I want to thank the speakers and those who have taken part in this discusson. If you have gotten something out of it we are fully repaid for what we have done.

The meeting then adjourned.

SESSION V

FORECASTS, BUDGETS AND CONTROLS

THURSDAY MORNING, JUNE 16, 1927

This session was organized under the direction of

P. J. WARNER
President, The Ronald Press Company, New York

and

E. F. KITENDAUGH
Auditor, Oneida Community, Limited, Oneida, N. Y.

JAMES O. McKINSEY was graduated at the University of Chicago, and received his LL.B. at the University of Arkansas, and holds the degree C. P. A. State of Illinois. He is Senior Partner of James O. McKinsey and Company, Professor of Accounting and Business Administration, University of Chicago, and Chairman of the Board of Directors of the Hamilton Bond and Mortgage Company. He is a member of the American Institute of Accountants, National Association of Cost Accountants, Illinois Society of C. P. A., American Management Association, Taylor Society, and American Association of University Instructors in Accounting.

WILLIAM M. BECHLER entered the employ of the B. F. Goodrich Co., in 1908, first in the billing department and later in the Mechanical Goods Production Organization. In 1918 he became Production Manager and two years later was transferred to the Comptrollers' Division. Shortly after, he was made Assistant Auditor, and is now Factory Auditor.

EARL D. PAGE was educated at the Pace Institute of Accountancy, Boston, and took course at Harvard Business Administration School. Entered the employment of Charles E. Woodward & Co., and later was office manager for the Quaker Oats Co., Boston, and Lever Bros. & Co., Cambridge. Served as Coast Inspector, United States Naval Reserve, being released with the rank of Lieutenant. Employed in the Comptroller's Department of the United States Rubber Co., as accountant for the tire factories. At present in charge of the budgetary control procedure and compilation of consolidated budget statements under Mr. William Cutter's supervision, and supervises the personnel necessary to pay all corporate, administrative and factory bills, tabulating work embracing sales and production statistics, commitment records for centralized purchasing department.

FORECASTS, BUDGETS AND CONTROLS

PRESIDENT FINNEY: This morning's session, without further introduction, is on the subject of "Forecasts, Budgets and Controls," a most interesting subject. This session has been organized by two of your national directors, Mr. Kitendaugh of Syracuse and Mr. P. J. Warner, President of The Ronald Press Company, New York. I am pleased to present to you at this time Mr. Warner who will preside.

Mr. P. J. Warner took the chair.

CHAIRMAN WARNER: Mr. Kitendaugh and I were assigned this task of organizing a full day's session on "Forecasts, Budgets and Controls." We as accountants have heard a great deal about the many benefits that management could derive from a well-organized and operated system of forecasting and budgeting. On the other hand, we as accountants have been given what I feel is perhaps one of the most disagreeable and hard ends of the problem to solve.

The purpose of this session, as Mr. Kitendaugh and I have attempted to organize it, has been to give to us as accountants practical information on the operation of forecasts and budgets from the practical experience of accountants who have been operating a series of forecasting and budgeting efforts for their companies.

Every member of the speaking staff that we have gotten together is an experienced accountant. They are men who have had a great deal of practical experience, either in the professional world or in their own companies, and they are fully qualified, I believe, to answer any reasonable question that we may feel desirous of putting to them. The value of this meeting can be greatly increased if we will attempt to organize such questions as we have and present them in a good snappy fashion. I will do my best and I am sure all the speakers will do their best to see that you get a satisfactory answer, at least as satisfactory as the answer can be made, considering conditions under which we are operating.

We have been very fortunate this morning in having one of

the outstanding accountants here in the Middle West agree to preside over this meeting, keep the speakers in order, and attempt to prevent any serious disagreement on the floor. He will also give us the advantage of some of his own personal experience. I would like to introduce now the presiding speaker of the morning, Mr. Arthur E. Andersen, of Chicago.

Mr. Andersen took the chair.

CHAIRMAN ANDERSEN: The subject of budgets and forecasts, their applications and methods of control, should command the most earnest consideration of every one of us. In emerging from a period of violent prosperity and drastic deflation, American business is undoubtedly facing a time of trial and of its most severe testing. Many of our fundamental industries have been as yet unable to solve their problems or in many cases to clearly define their problems. We face a period of declining commodity prices which may run for ten to twenty years, while at the same time labor costs and living costs are upheld by the higher standards of life and the pursuit of happiness. The internal conditions of American life and industry are fluxing rapidly and industrial management must be alert to offset or to meet the effects of these changes.

The solution of these problems is somehow tied to the attainment of mass production and mass distribution. The ultimate effect will almost certainly be a trend toward mergers and consolidations on a scale hitherto unthought of, carrying in their train new problems of distribution and finance. The problems facing management can be solved only through the most careful development of the principles of organization and control.

Upon the accountants of the United States is thrown the responsibility of aiding management in working out the methods for control. One of the most effective instruments that has been developed, and concerning which our knowledge and experience is all too limited, is that of budgets and forecasts.

Only through the intelligent use of budgets and forecasts is it possible to obtain efficient management of business. The accountant of the future must not only be thoroughly grounded in technique but he must have business capacity and vision that he may take his place with other officers of a corporation, sitting not only as a member of the finance committee or of the executive commit-

tee but in many cases as a member of the board of directors. It is my firm conviction that if the accountants accept this larger responsibility, there will be far more men drawn for executive positions from the accounting profession than from either the engineering or the legal, the two professions that up to this time have provided the bulk of executives for American business.

This opportunity lies before the accountants of this country, and we can strongly impress, particularly upon the younger men, that accounting is not an end but merely one of the means to the end. Properly coordinated with other functions of a business, it makes for a well-rounded out and balanced man who may dream dreams and have the courage and capacity to carry them through to the actuality of results. There is no subject that should command more earnest consideration and attention on our part than this question of budgets and forecasts and controls. I am therefore very happy to preside at a session that makes this a subject for discussion.

The first speaker of the morning is a pioneer in this work. Pioneers always have to take the responsibility that attaches to breaking ground. As most of you know, Mr. McKinsey is a member of the firm of J. O. McKinsey & Company. He is a certified public accountant in the State of Illinois. He is professor of business administration at the University of Chicago. He is the author of "Budgetary Control" and "Managerial Accounting"; he is co-author of "Controlling the Finances of the Business"; has had a tremendous experience in the installation and operation of budgets, and proposes to talk to us this morning on "Practical Suggestions for Budgetary Installation and Operation." I have genuine pleasure in presenting to you Mr. J. O. McKinsey.

THE ACCOUNTANT'S RELATION TO THE BUDGETARY PROGRAM

J. O. McKinsey
J. O. McKinsey & Co.

I HAVE been asked to talk to you this morning on the relation of the accountant to the budgetary program. In order to discuss the subject intelligently, it is necessary to have clearly in mind what budgets are. As I think of budgets, and as I think

the accountant should think of them, they are a statement of future accounts expressed in terms of units of responsibility. The accounts record what has happened prior to the beginning of the budget period; the budget shows what we expect the accounts will show has happened at the end of the budget period.

It is essential that the budgets be made in such form that they will present a statement of future accounts, for otherwise it is difficult, if not impossible, to make comparisons between the estimated and actual results, and unless such comparisons are made it is impossible to judge whether the budget has been carried out efficiently. The budget should be expressed in units of responsibility because responsibility must be placed upon specific individuals in the organization for the preparation and carrying out of budgets. In the final analysis, control of activities is effected through individuals.

From this point of view, it is our problem to consider the relation of the accountant to the preparation and operation of budgets. The first essential in the preparation of an effective budget is the procuring of adequate information for use as a basis of forecasting results. The information needed for this purpose is of two kinds: First, information as to past results which is obtained from the accounting records. Every budget prepared should be based upon past results and the accountant should be the member of the organization who is most competent to collect, present, analyze, and interpret such information. Consequently, the first responsibility of the account with reference to the budgetary program is the collection, presentation, analysis, and interpretation of the information concerning past results which is needed as a basis for the budgetary program.

But it is extremely dangerous to use information concerning past results alone, or to use such information too literally. It is unfortunate that in many cases business firms make their budgets by simply adding an arbitrary percentage to the past results. For example, mercantile and manufacturing firms frequently prepare statements of their past sales, add 10% or 15% to these and present the result as a sales budget. I think it should be apparent to you that such a statement is not a budget. It is merely a mathematical computation. It doesn't require ability or ingenuity to make a budget of that type and such a budget is frequently dangerous rather than helpful. I think it worth while to discuss briefly some

of the factors to be considered when interpreting past results as a basis of making budgets and to indicate in what way the accountant can be helpful in the consideration of these factors.

It should be apparent that the factors to be considered vary greatly from business to business and from time to time in the same business. All I can do here is to point out some of the factors which have been found to be important in different types of industries and let you draw such conclusions as you can from these specific illustrations. One of the first problems which should be considered when a sales budget which shows an increase in sales is being prepared is, What will be the probable effect of such an increase on the sales price of the product? In other words, is it possible to get the desired increase in sales volume without decreasing the sales price of the product?

Our Chairman, Mr. Andersen, stated that it is probable that during the next few years we shall have falling prices. I believe that many people who have given careful study to forecasting future business conditions agree with him. Because of this condition we must give careful attention to the effect of an increasing volume upon sales prices, for it will probably be difficult in most lines of industry to maintain the sales prices even if no growth in volume is sought. It is apparent that the effect of an increase in volume on price depends to a considerable extent on the volume which a company sells. In a small company which is not an important factor in its line of industry, it may be possible to take advantage of specific opportunities to increase the sales volume and not affect the market price at all, but when a large company whose volume is an important factor in determining the price in an industry, attempts to increase its volume 10 or 15 or 20%, a very detrimental effect upon the price will usually result. In fact, in some lines of industry, the whole market structure would be disrupted.

I can think of a company with whose operations I am intimately acquainted which could not possibly consider seeking an increase of 15% in its sales volume during any specific period, for to do this would disrupt the market to such an extent that it would affect all members of the industry. If a company decides that it cannot obtain the volume it desires at the present sales price, it is then necessary to decide whether it is desirable to secure the increase in volume at a smaller sales price. In given lines of in-

dustry, the problem of setting sales prices is one of the most important factors in the preparation of the budgetary program.

We frequently discuss the coordination of sales and production, and in this discussion we often forget that in many lines of industry the real point of coordination between sales and production is the price at which the product is to be sold. In many cases, we should think of coordination between sales and production as a matter of pricing policy before we think of it in terms of total quantities to be sold and total quantities to be produced. It is, of course, commonplace knowledge that if a lower price produces a greater sales volume, this in turn makes possible a greater production volume which under normal conditions should produce a decrease in unit cost. This may also produce a greater turnover and the savings in unit cost and the greater profit made by the rapid turnover may produce a larger profit than will a smaller volume at a higher price.

This problem of coordinating sales price, unit cost and velocity of turnover is simple to state but often difficult to solve, and I am sorry to say, that in many cases it is a problem to which executives and accountants have given far too little attention. In very few industries where I have worked, have I found anything like adequate consideration given to the effect of the sales price upon the volume that can be sold, upon the unit cost of the product and upon the turnover of the product. I venture that in the next few years, the accountant will find it necessary to give very earnest consideration to the pricing policies of his company. Many times the establishment of prices is left primarily to the sales department. The sales department is likely to take the cost figures, add a margin which it would like to obtain and then modify this according to competitive prices. In many cases, the accountant's advice is not asked with reference to the price set. It is my opinion, that the accountant with his knowledge of past results and with his ability for analytical work should play an important part in the establishment of sales prices. He is probably the only member of the organization who is able to see all the factors which should be considered in the establishment of prices.

Another important factor in the preparation of budgets to which the accountant should direct his attention is the relation of the sales program to the production program from the point of view of economical production—in other words, whether the sales

program provides for a well-balanced production program. This does not merely involve considering whether the production department can produce more or less than the sales department plans to sell, although this is an important question. It also involves whether the sales program calls for the production of the products which the production department can produce most economically. In many lines of industry, it is not possible to have the machinery entirely flexible so that machines may be shifted easily and quickly from the manufacture of one product to another. Even if machines can be so shifted, the process involves considerable expense.

The typical sales department does not understand production problems and in many cases it does not realize the effect on production cost of a shift in sales emphasis from one product to another. It is true that the production department, in so far as possible, should be a service department and should attempt to produce the products which can be sold most profitably. It is equally true, that when a company has invested its capital in machinery and equipment, the sales department should become a service department to the extent that it should attempt to market profitably, products which can be produced most economically with the existing equipment.

In considering these problems, the accountant with his knowledge of costs and with his ability to analyze results should be able to give constructive advice concerning the coordination of the sales program with a well-balanced economical production program.

Another important factor to be considered in the preparation of a budget is the organization of the sales program so that the maximum amount of sales can be obtained with the least amount of cost. This brings us to a consideration of the whole question of market analysis.

When we plan to secure an increase in sales volume, we are immediately confronted with the question, In what lines of products and in which territories should the increase be obtained? The typical sales executive is an optimist. He is a man of the dynamic type. He is a man who thinks that if a goal is set up in the form of a certain volume, the most important thing to do is to pep up the sales force and to send it out to get that volume. The typical sales executive is not a man who carefully analyzes markets, marshalls the facts and decides where he can obtain the greatest vol-

ume of business with the least sales resistance. In present competitive conditions, if business organizations are to continue to grow, it is necessary, when planning an increase in the sales volume, to consider to whom their products should be sold, where these customers are and the best method of reaching them. To do this requires a careful analysis of the market to ascertain the sales outlets and the method of reaching these outlets. It is necessary to find the type of people who buy each of the products which the business sells, where these people are located, what competition exists in that locality, and the best method of reaching these particular people.

This is a problem of sufficient importance and complexity to be a challenge to the thought of any of us. It is the field to which the accountant may well direct his attention with confidence that he may render a distinct service. You may say that such work is out of the field of the accountant. I can only reply, that in my opinion there will be no limit to the field of the accountant of the future. The accountant should be the eyes and ears of the chief executive. He should be the one who is responsible for analyzing all the problems of the business and his field should be wherever the capital of the company is invested. It should be his responsibility to see that the activities of the company, wherever they may be and whatever they may be, are in harmony with the policies of the business. The accountant who does not conceive his job in this light will never be able to take the place he should in the budgetary program. He must recognize that when figures on past results and information on future results have been collected, it is his job to call to the attention of the chief executive and the major executives of the business any tendency, any factors or any information which should influence them in making decisions. He is the man who should be best qualified to analyze, interpret and advise with reference to the facts under consideration. In the past many accountants have felt that their task was completed when they had made up statements which presented past results in what they considered a satisfactory form. The accountant who so conceives his responsibility is to me much like the man who, with his wife, spent a couple of days in an American plan hotel in one of our large cities. At the time of his departure at the end of two days, he was informed by the clerk that he owed $50. In answer to his question of why he owed so much, the clerk explained that he owed

$25 for the use of the room for two days and $25 for the meals of himself and wife. The gentleman explained that he and his wife had not eaten at the hotel but had eaten in a neighborhood restaurant. To this the clerk replied, "That is immaterial for this is an American plan hotel. We provide the food for you to eat and if you don't eat it, that isn't our fault." The man handed the clerk $25. The clerk insisted that he owed $50. The man then replied, "I am giving you only $25 for I am charging you $25 for kissing my wife." The clerk replied that he hadn't kissed the gentleman's wife, to which the gentleman replied, "That isn't my fault. She was here to be kissed if you wanted to do so."

From my point of view, many accountants work on the American plan. They prepare elaborate statements and present them to executives with the thought that they have given them to the executives to use if they want to and it isn't their fault if they mean little or nothing to the executives. What I am trying to emphasize is that the task of the accountant only begins when the executive's report is made. His major duty is to interpret these reports to the executive and to assist him in formulating policies based on them.

Another problem to which serious consideration must be given in the preparation of the budgetary program is the personnel of the organization. Some companies seek to expand so rapidly that it is impossible to develop the organization with sufficient rapidity to handle the problems of the company efficiently. One of the very important problems which faces any company planning a rapid growth is whether or not its organization is qualified to administer the enlarged business—in other words, whether the executives of the business can grow in ability as rapidly as it is planned to increase the volume of sales and production. Many times a sales manager may be very efficient when he is supervising the sales of a company with sales of $5,000,000 a year, but may be quite inefficient in administering the sales activities of the company if the sales volume increases in a very short period to $20,000,000 or $30,000,000 a year. Some companies have recognized this difficulty and have purposely restricted their growth so that their organization may keep pace with their volume of business.

I am rash enough to assert that the accountant can render service in the study of this problem. Since he is constantly studying the activities of all the departments of the business, he should

be able to obtain a knowledge of the abilities and deficiencies in the organization because, after all, the results of the activities of all the employees are reflected in the accounts, and if the accountant has his records set up in the right form so that he can see the results of the activities of each of the departments, he has an opportunity to judge the abilities of the executives responsible for these activities. It is true that the accountant must use judgment in offering criticisms in reference to executives, but he should recognize that his is the responsibility of presenting to the chief executive information which will enable him to judge the abilities of his subordinates.

I might discuss with you a number of other factors which should be considered in preparing your budget program but I think the illustrations I have given are sufficient to indicate the nature of the problems. If we assume that the factors mentioned as well as many others which should be considered have been given proper consideration, and that a budget has been prepared as a result of this consideration, the next problem is to ascertain whether the budgetary program is being properly executed.

To do this it is necessary to have at least monthly and sometimes weekly comparisons between the actual and the estimated results. It is necessary that the executives be presented a picture which will show how near they have come to doing what they planned, when the budgets were prepared and approved. It is the function of the accountant to prepare statements which will give this information for it is important that we do not have two kinds of statements prepared, one showing the actual results and the other the estimated results.

It is important that the accounting reports be revised at the time budgets are installed so that each accounting report presented to an executive will show a comparison between the actual and the estimated results. If two sets of statements are presented to the executive at different times, he will give more attention to the one received first. If very shortly after the end of the month the accountant can lay on the desk of the executive a statement which shows him what each unit of the business under his jurisdiction has done, and what they planned to do, then the executive has a report which enables him to judge the efficiency of the executives in carrying out the budget program.

No matter how carefully the budget program has been pre-

pared, there will always be some variation between the estimated and the actual results. As a consequence the accountant's responsibility is not over when he has prepared a statement showing a comparison between actual and the estimated results. It is his responsibility to prepare an analysis which will point out the reasons for these variations so that the executives may know whether the variations are justified, and if they are not justified, who is responsible for the variation. Once a month there should go to the chief executive as well as the other executives of the business, a picture showing a comprehensive comparison of actual and estimated results and a comprehensive analysis of the variation.

If this is to be the accountant's work, he must not be too sensitive to criticism, for invariably he will offend the sensibilities of some of his associates and will be criticized for the explanations which he offers. Moreover, the analysis prepared by the accountant will not always be entirely correct and sometimes he will find that he must retract some statements. But the accountant who has properly established himself in the organization and has fully won the confidence of his superior officer will have little difficulty, if he uses ordinary judgment in preparing his analysis and making his recommendations. The accountant who never presents an analysis until he is absolutely sure that he has made no errors, will present so few analyses that he will be of little value to the executives of the business. He should present his reports and suggestions in the spirit of helpfulness and cooperation.

He should present his report as soon as possible after the end of the budget period. One of the reasons that reports of this kind are sometimes not considered seriously by the executives is that so much time has intervened between the end of the period and the receipt of the reports, that the information provided therein is ancient history. The typical executive, by some means or other, forms an opinion as to results very soon after the end of the period. Whether a formal report is presented to him or not, he has an idea in his own mind as to what the results are, and if he obtains this information from his subordinates before the accounting reports are submitted, it is likely that he will not give the reports as much attention as he should. It is also true that if reports are submitted for one period near the close of the next period, there may be a tendency on the part of the executive to wait to see what will happen in the current period. For example, if he

received a report on the 25th of July giving him the results of the operations for June, there will be a tendency on his part to wait until he obtains the results for July.

If the budget reports are to be of the value which they should, the accounting procedure must be speeded up so that reports showing a comparison between actual and estimated results can be submitted very shortly after the close of each period. There are a number of problems involved in speeding up the accounting procedure, but the progress made by many companies has been almost unbelievable and the accountant will frequently find it is possible to make more progress than he originally believed possible.

The third function of the accountant with reference to the budgetary program is responsibility for the formulation of the budgetary procedure. The accountant is responsible for preparing the procedure for the maintenance of the accounting records, and if the budgets are to be considered as statements of future accounts, it would seem logical that he should be the one responsible for preparing the budget procedure.

A clear distinction should be made between the responsibility for the budget program, which in the final analysis should rest on the chief executive, and the responsibility for the procedure by which the program is carried out, which should rest on the accountant. I know that in many companies this responsibility is not placed on the accountant. One reason for this is that in some organizations the accountant does not have the point of view on budgets which we have taken this morning. In some cases it is impossible to sell the budget idea, in the fullest sense, to the accountant. Although I strongly believe that the accountant should be responsible for the budgetary procedure, I have often found it necessary to advise clients to place this responsibility on someone else in the organization because the accountant would not function properly in this capacity. If the accountant sees the objectives of the budgetary program, and has the tact and executive ability which is needed to supervise the budgetary procedure, the responsibility for this procedure should be placed on him. He should be responsible for preparing the procedure and issuing instructions to the various units with reference to the preparation of the various budgets, for collecting the estimates submitted by the various units of the company, summarizing and analyzing these various budgets, and finally preparing a summarized report for

the use of the chief executive or preferably for the use of the budget committee composed of the chief executive and his major assistants. The accountant should be secretary of this committee. In this capacity he should be in charge of all the technical procedure involved in the preparation and use of budgets.

To summarize, I have tried to show how the accountant may be of service to the budgetary program in three ways:

(1) By assisting in the collection, analysis, and interpretation of the data which are necessary for the preparation of a budget.

(2) As the agent through whom the monthly reports are made which show a comparison between the actual and the estimated and in the interpretation of these differences and the submission of recommendations with reference to them.

(3) In the preparation and enforcement of the budgetary procedure.

If the accountant can thus conceive of the function of the budget, and if he can sell the budget idea to his associates, he should occupy an important place in the budgetary program, and in the fullfillment of his responsibility to this program he should have an opportunity to become one of the most important executives in the organization. His work in connection with the budgets is not only interesting but it is a continuous and ever-changing work. An organization can never make its program so perfect that there will not be numerous important problems involved in the preparation and carrying out of the budget. It will never be possible to have a perfect budget and because of this, many important problems will always be involved in budgetary work.

Although it is impossible to prepare a perfect budget, and even to formulate a perfect budgetary procedure, may I leave with you this final thought: Isn't it better to plan and think ahead even if the plan is only approximately accurate rather than not to plan at all? Isn't it in this field of planning that the accountant can render one of his most important services to management?

CHAIRMAN: The applause is evidence that Mr. McKinsey has delivered an exceedingly practical and interesting talk on the subject of budgets, which should lead to many questions and discussion from the floor. We are going to follow the plan of dis-

cussing each paper immediately after the reading. We have an excellent opportunity to obtain further and more detailed information regarding budgets. Here is your chance. Take it.

J. J. SELLERS, *Virginia Iron, Coal & Coke Company, Roanoke, Va.:* Does Mr. McKinsey's plan propose the preparation of estimated balance sheets and the comparison of the actual balance sheet with the estimated balance sheet?

MR. McKINSEY: The estimated balance sheet and the estimated statement of profit and loss are the most useful form of summarizing the budget totals. In any case where a complete budgetary program has been installed, it is desirable to prepare estimated financial statements. Of course, in many organizations, budgets are installed gradually and until the program is completed, it is somewhat difficult to prepare these financial statements with sufficient accuracy to make them of very much value. Is there any specific question you want to ask about the estimated balance sheet and estimated statement of profit and loss?

MR. SELLERS: As you were speaking it seemed as if the feature you had primarily in mind was the budgeting of your expenses and sales and so forth. If you were budgeting for a three months' period would you work that down to a balance sheet three months hence so that by the time that period expired you had prepared the actual balance sheet with the estimated?

MR. McKINSEY: I did not discuss the problems involved, in the preparation of these particular items because I did not attempt to discuss the budgetary program as a whole. I was trying only to indicate the types of problem in connection with the budgetary program which are sometimes overlooked, and to which I thought the accountant should give attention. I did not attempt to discuss the different types of budgets which should be prepared or the tasks involved in their preparation.

G. A. TORRENCE, *Eastern Dairies, Inc., Springfield, Mass.:* In an organization where the financial and accounting responsibilities are headed up through a treasurer, in the carrying out of a budget, where does the comptroller or auditor, whatever his title may be, fit in? Is he to report to or through the treasurer or independently of these budgetary officers?

MR. McKINSEY: Although I believe that the type of organization you mention is not a good one, when it exists, it is necessary to recognize it in the preparation of the budgets. I would say that in such a form of organization, the budgetary procedure should be under the jurisdiction of the treasurer. He may, of course, delegate the details of this procedure to the accountant who reports to him but the chief executive should look upon the treasurer as the one who is responsible for the budgetary procedure. The point I wish to emphasize is, that the man responsible for the budgetary procedure should report directly to the chief executive. Does that answer your question?

MR. TORRENCE: Yes, except I should like to state that very generally the treasurer is the executive officer of the company. It is simply a custom, the fact that he has the title of treasurer does not mean he performs the functions dealing exclusively with financial and accounting control. He really is frequently and usually, unless the organization is very large, the executive officer of the company. In other words, the president.

MR. McKINSEY: In such a case, I would change my answer. If the treasurer is also general manager, the full responsibility for the budgetary procedure could be placed on the accountant who reports to the treasurer because the latter is general manager rather than because he is treasurer. I will repeat again that the fundamental consideration is that the man who has charge of the budgetary procedure should report to the chief executive whoever he may be, for otherwise he will be placed at a disadvantage in dealing with the other major executives of the business. If he reports to the chief executive, he has the same rank that they have.

HARRY A. BULLIS, *Washburn Crosby Company, Minneapolis, Minn.:* If you were lining up a new company, what title would you give the man who had charge of the budget?

MR. McKINSEY: If I were lining up a new company, I would have a comptroller who would be in charge of the budgetary procedure. In a large company there may be a budget division in the comptroller's office that would be responsible for the budgetary procedure. The head of this division would report to the comptroller who would be the executive responsible for the budgetary procedure.

MR. BULLIS: That man would be under the direction of the principal executive.

MR. McKINSEY: As I said before, I think it is fundamental that the man in charge of the budgetary procedure should report directly to the general manager or the president and in all cases he should report to the same man to whom the sales manager, the production manager and the other major executives report so that he will not be placed in a position inferior to them.

MR. SELLERS: I would like to ask just one more question. Yesterday I heard budget and standard costs referred to somewhat synonymously. I would like to know wherein they differ, if at all. For instance, in the preparation of standard costs, I understand that that is based largely on time study to get a normal production, whereas in the preparation of budget cost—that is, what you expect the production to cost—it is based largely on your sales estimates. If you are going to have budget costs and standard costs, if they differ, won't you have to make two different comparisons monthly with your actual figures comparing your actual figures with the budget figures and with your standard costs?

MR. McKINSEY: In the broadest sense, all standards are budgets and all budgets are standards. When a standard is established, you are in effect setting up a goal which you wish to reach or a measuring stick of your activities. When you establish a budget, you are doing the same thing. Whether or not your budgeted cost would be different from your standard cost depends upon the basis upon which you established your standard cost. If the standard cost is established on a basis of your average production over a period of years, and your budgeted cost is established on a basis of what you expect to do during the period, then there may be a difference between the two. Not being a cost accountant, I hate to discuss the subject of standards before such a group of experienced cost executives, but I am of the opinion that the budget cost and the standard cost should be the same and that both should be based on expectancy during the period for which they are established rather than on past experience.

H. W. MAYNARD, *Gillette Safety Razor Co., Boston:* It may help in answering the last question and clarify the answer a little, if we consider the different kinds of budget fundamentals.

It seems to me there are fundamentally four kinds of budgets: first, the appropriation, used by governmental and state and city organizations as a limit to what may be spent. It might even be called a prohibitory instrument. Second, the sales quota which might be called an estimate which the sales manager hopes is going to be met during the year. It is a goal to shoot at; it is what he hopes to sell. If it isn't reached, it isn't a matter of serious concern. The third might be called the forecast, which is an actual serious estimate of what the company actually expects to sell during the year and actually expects to produce. The kind we were speaking of yesterday really comes in a sort of fourth class in which the estimate of expenses in the factory, altogether separate from the matter of sales, is used as far as possible as a precise measure of the expenses for the period.

MR. SELLERS: If Mr. Crockett is in the room I would like to hear what he has to say about that.

MR. McKINSEY: I hesitate to enter into a discussion of standard costs because this would carry us far afield. I wish to discuss briefly, however, one statement made by the speaker with reference to the sales estimate. There is a considerable difference of opinion concerning the basis on which the sales estimate should be made. This question involves, primarily, a decision as to whether the sales estimate should be based on expectancy or desire. Sometimes the sales budget is made simply as a goal to spur on the salesmen. Sometimes it is made as a basis for planning the other operations of the business. I am inclined to believe that a sales estimate should be a statement of what is desired and deemed possible. I saw some instructions the other day which suggested to the field organization that in preparing the sales estimates, it should be guided by restrained optimism. I am inclined to believe that this expresses the point of view which should be followed. I do not believe that much is gained by making sales estimates which cannot be reached. The dog usually ceases to jump for the piece of meat on a stick if he sees he can never get it and I think a salesman will cease to be spurred on to reach a sales volume which he knows is impossible. I believe that the sales volume should be set on the basis of what is considered a reasonable task for the normal man to perform in a normal territory. It then becomes a

standard by which to guide the individual and an estimate of sales will usually be approximately the correct sales volume.

There are, of course, exceptions to all general rules for the preparation of budgets. For example, for the preparation of a budget for a state university, it is often the practice to submit to the State Legislature a budget somewhat larger than is deemed necessary, and to prepare another for its own use. It is the custom of legislatures to cut the budgets submitted by universities and, therefore, it has been found expedient to make these sufficiently large to more than meet the ordinary needs of the university. It is impossible to lay down arbitrary rules for the preparation of any budget until you know the purpose for which the budget is made.

H. J. MYERS, *Lyon & Healy, Inc., Chicago:* I just want to give my opinion as to the use of standard costs and the budget synonymously. In costs we have three elements. We have material, labor and overhead. Our standard costs commonly referred to usually are understood to be made up of a standard bill of material costs. Our standard labor cost is based on time study. Our budgets of expense or overhead items are nothing more nor less than standard costs of our overhead. Therefore, budgets of overhead and standard costs of overhead are synonymous to me. That is the way I understand the synonymous use of these two words.

CHAIRMAN: Are there any other questions?

R. C. LOUDEN, *Loomis, Suffern & Fernald, New York City:* Mr. McKinsey, how long should the budget period be and how frequently is it practical or desirable to check the estimates?

MR. McKINSEY: I cannot give you an answer as to how long the budget period should be. This period will vary in length in different companies and will also be of different length for the different budgets in the same company. There are, however, a few factors which should be considered in deciding the length of the budget period. One of these factors is the seasonal trend of the business. In a business where the goods are accumulated over a considerable period of time for sale at one period when the peak of sales is reached, it may be necessary to prepare the sales estimate for a year in order to provide for coordination between the sales and production. In many cases, it is necessary to give considera-

tion to the length of the turnover period in deciding the length of the budget. It may be necessary to consider the amount of information which is available and the difficulty in ascertaining on the basis of that information what the future will be. We can usually forecast more accurately what is going to happen for a short period, than for a long period, especially if we have no comprehensive information to use as a basis of our guessing.

As I said before, you may make budgets for periods of different length in the same company. For example, in one company with which I am familiar, a maintenance budget is prepared for one year because it is thought necessary to plan the expenditure for maintenance that far in advance in order that a proper program may be laid out for handling the number of mechanics employed and in distributing the work to be done over the year. In the same company, it has been decided to prepare the sales budget for only three months because in this particular company, the volume of business is dependent very largely on the amount of products available for this company to manufacture and it is quite difficult to ascertain what the quantities will be for any great length of time. I give these illustrations merely to illustrate that in each company you must consider the different factors which will influence the length of the budget period and that you will not decide upon any particular length just because that has been found most expedient in some other company.

CHAIRMAN: The next two papers are founded primarily on a study of budgetary control by a Committee of the Rubber Association of America. Fortunately we have two men who are thoroughly experienced in budgetary control in that industry and in two separate and distinct parts of that industry. The first part will be addressed to the factory and the second part will be addressed distinctly to the commercial end. There is considerable advantage in discussing a specific industry and the problems relating thereto, because you are more likely to have a more detailed discussion than would otherwise be the case. The fundamental principles involved are of course the same in all industries.

The next speaker is Mr. William M. Bechler, Factory Auditor in charge of all of the factory accounts of the B. F. Goodrich Company at Akron, Ohio. He is distinctly a rubber product, having been born, raised and trained in Akron, Ohio. His discussion

will have to do with the forecasting and budgeting of factory production and costs and the development of statements that bring about a comparison of those forecasts with actual performance. I am very happy to introduce to you Mr. William Bechler of Akron, Ohio.

Mr. Bechler then read his paper.

BUDGETARY CONTROL METHODS IN THE RUBBER INDUSTRY

WILLIAM M. BECHLER
B. F. Goodrich Company

BY way of introduction, let me say that we are dealing *now* with an industry wherein the cost of raw materials constitutes the largest single cost factor, and further, within the raw material group one item, that of rubber, is a most important factor. You may or may not be familiar with the gyrations in the price of this commodity. During the year 1925 rubber advanced from 35 cents per pound in January to $1.23 per pound in July, falling to a low point of 64 cents in the month following and moving again to $1.10 per pound in December of that year. During 1926 it dropped from 92½ cents in January to 36¾ cents during December. This year to date has seen an extreme movement of approximately 5 cents per pound. Commodity prices are now at an extremely low level, the lowest in our history, and competition is keen as, in common with many other industries, production capacity exceeds consumer demand. Hence we are forced to every legitimate cost saving method. Accurate and dependable controls, whether they be called forecasts, budgets or standards, are vitally essential to our life.

This paper is not to discuss rubber, however, but is to deal with a plan for the gathering of data pertinent to the forecasting and budgeting of factory production and factory costs and for the presenting of information, to the management, in the form of actual results versus forecasted standards for a rubber manufacturer.

Time does not permit a full discussion, but to assist you in following the various schedules to a logical and practical conclusion, you have been furnished with a pamphlet * which covers the

* The budget pamphlet referred to is a reprint of pages 215-251 of a book entitled, "Manual of Accounts for the Rubber Industry," developed by the Rubber Association of America and published by the Ronald Press Company.

entire subject in some detail. We will make some references to it. You can read it at your convenience. It has been prepared from the Rubber Association's Accounting Manual with the idea that actual illustrations will bring out the principles more clearly than will an elaboration of words. It is in reality the composite experience of our industry. We will follow this pamphlet as to schedules, hoping to inject sufficient Goodrich Company experience to further demonstrate that it is a practical and worth-while plan. I want to assure you that the Goodrich Company has and is now working a satisfactory budget under the principles set forth herein. However, budgets and standards tie in so closely that at times we have some difficulty in distinguishing them.

The essentials of a properly prepared budget plan are summarized as follows:

(1) Careful estimate of sales based upon previous years' experience, tempered not only by the immediate business situation but also by every available forecast of future general business conditions, the situation of the specific industry and the individual company's policy.
(2) Scheduling of production in keeping with sales estimates.
(3) Careful gauging of material requirements.
(4) Establishment of standards of labor performances.
(5) Careful analysis of expenses with limits set for auxiliary services such as power, maintenance and delivery.
(6) Provision for checking and revising standards by performances.

The factory budget should be constructed and broken down for operating purposes into the following major classifications:

(1) Operating budget
(2) Material requirement budget
(3) Property budget (to cover plant additions only)

The general and departmental budgets are prepared for the length of the scale period by months. In addition there is prepared, for operating purposes, a monthly budget. The current actual figures of accomplishment are compared with the monthly budget, likewise the accumulations to date for the period. These comparisons must be in readily understandable form. The difficulty often arises here, not from the compilation of the actual

figures but from the fact that budget forecasts are too general to be effective. The budget must be in the same detail ordinarily used in summarizing actual accruals. If more than one product is sold, a separate schedule or forecast should be prepared for each and be consolidated into the general budget.

That we may discuss each element of the budget as it affects factory operations, refer to pamphlet. Here we have outlined the various schedules. Now if you will check under Schedule A, Forecast of Sales Units; then check Schedules B, C, D, E, F, G, H, K, and P, we can start.

Schedule A—Forecast of Sales Units. To quote from the pamphlet, "The start of a budget system lies primarily within the sales department, whose function it is to estimate the sales which will be made in the budgeted period." The scheduled exhibit considers but one product, pneumatic casings. Our application of this principle in the tire division is as follows:

The vice-president in charge of sales requests the home office and branch managers to submit a forecast of units, by lines, to be sold each month for the fiscal year. In the case of the branch manager, he covers his territory only. This manager has before him a record of his previous sales, a record of car registrations and an estimated potential tire sales for his territory. The branch managers submit their figures to the home office sales statistical and research division where each manager's estimate is compared with the home office record of previous sales and other available statistical data. These figures are then reviewed by the home office department manager, and if there are any differences of opinion, the home office department confers with the branch manager. At this point, if it is necessary, sales conferences are held.

All branch managers' estimates, after approval by the home office, are consolidated and the total sales then compared with past experience, total car registrations, gasoline consumption, motor car production, etc. These consolidated figures are then given to the vice-president in charge of sales, who reviews them along with the company policy for the next fiscal year and at this point the sales value of the units is determined.

After approval by the vice-president in charge of sales, the detailed forecast of units is submitted to the comptroller's office. I might mention that it is at this stage that all sales optimism is

removed from the figures. The comptroller's office checks the forecast against all available statistics in the industry. For example, the Rubber Association reports by size and type of casing, including inventory position, production, and sales according to the following major classifications: Dealers—Manufacturers—Export. There is a further check against reported dealers' inventories.

At this point the sales estimate in units is viewed along with the statistical outlook for rubber; i.e., we determine, if possible, whether the rubber market indicates a fluctuating or constant price, and if fluctuating its trend, as it has been found there is never a strong tire market when the price of rubber is going down, while the opposite is generally true. The tie up of the rubber statistical price position with inventory, production and sales is basic.

After the comptroller's office have finished their check of units, the total is submitted to the budget and executive committees for approval. It is then ready for the various breakdowns. The importance of a carefully compiled detailed unit sales forecast cannot be over-emphasized. It is considered so vital in our company that we review our unit forecast monthly for the period to the end of the fiscal year and prepare detailed unit breakdowns for three months in advance each month.

Schedule B—Forecast of Finished Goods, Goods in Process Inventories and Production Requirements. Production requirements periodically by months are built up in units, the starting unit 140,000 being the number of finished casings on hand and in process at the beginning of the period. The estimated sales, 50,000 for January, 60,000 for February, and so on as obtained from Schedule A, are inserted on this schedule by months and then the inventory position in units (275,000), which is desired at the end of the period, is inserted so that the difference (605,000)—i.e., total sales (470,000) plus closing inventory (275,000); total (745,000) less opening inventory (140,000)—represents the amount which it will be necessary to produce in order to meet all these demands. As nearly as possible, from this point units of production are equalized by months in order that a constant employment of labor may be had and, as well, efficient use be made of plant facilities. However, monthly inventory position compared to sales is equally important. This procedure is carried through for each size and type of casing and at this point is checked with factory

production facilities and labor conditions. Incidentally it is here that we start our machinery, equipment and plant addition budget which will be referred to later.

It is our aim to maintain, as nearly as possible, a uniform daily rate of production. It is obvious that such a program has many advantages. It must be modified, however, when labor conditions prevent uniform rates—by that I mean that we cannot expect, nor do we receive, as regular attendance in our factory during certain seasons of the year as others, nor can we expect to operate our midnight shift as effectively in the middle of summer as in the cooler weather. I might mention here that a working day in the tire industry, at least in the Akron district, is 24 hours consisting of three 8-hour shifts. A week is six days, starting at midnight Sunday night and ending at midnight Saturday night.

This production and inventory schedule, reviewed monthly for three months in advance, allows us to plan our production so that:

(1) It will meet sales requirements.
(2) It gives consideration to labor conditions.
(3) It is in line with factory production facilities.
(4) And permits accurate forecasting of raw material requirements.

If a forecasting plan could not be carried beyond this point, it would still be of very great value to our company.

Schedule C—Breakdown of Factory Cost for Goods in Process. From the forecast of Sales Budget, Schedule A, is calculated the factory cost of the composite unit average. This factory cost is obtained by reference to past experience, tempered by immediate or estimated changes such as an increased or decreased labor cost, increased or decreased factory overhead or fluctuation in material cost. For the purpose of obtaining material cost, the inventory of raw materials at the beginning of the period is considered with the commitments for materials and the estimated requirements which will have to be purchased beyond this, to meet a production program as represented by the budget. This equalized material cost price, which should be arrived at by the addition of all quantities at actual or estimated cost price as represented above, should be used as the material cost. Referring to Schedule C, it will be noted that the units finished in the factory (605,000 for

the period, 100,000 each month except June) are those arrived at from Schedule B, which being priced at the composite unit factory cost at $6.78 represents the amount of money which will be the value of units produced during each month of the budget period. This total cost should then be further broken down into material, labor and overhead elements.

From this budget a separate schedule should be laid out for direct labor and direct materials which, of course, in the preparation considers the accruals or the inventory position at the end of each period. This also applies to indirect materials. The balance of the overhead budgets are woven into proper schedules or, where no inventory is required, directly into the cash budget, excepting of course non-cash items. This is illustrated under "Cost Elements" in Schedule C.

SCHEDULE D—FORECAST OF FACTORY PAYROLL. This schedule provides first for the accrued payroll at the beginning of the budget period (i.e., $15,000) which has a bearing on the cash requirement for payroll. The factory direct labor ($81,360 for January) and indirect labor ($20,340) payroll requirements of each month are determined from Schedule C. The labor requirements ($2,500 for January) concerned with plant additions are obtained from Schedule K, which will be referred to later. The accrual of payroll estimated at the end of each month should be deducted in order to arrive at the amount of cash required for payrolls during the period. This forecast of factory payroll includes indirect and plant addition labor as well as direct labor, all of which items appear either on Schedule C or Schedule K.

For departmental control the labor standards and forecasted production determine the budgeted payroll.

SCHEDULE E—FORECAST OF DIRECT MATERIAL BUDGET AND INVENTORY REQUIREMENTS. On Schedule O, the balance sheet at the beginning of the period, the inventory of material and supplies is shown at $460,000, direct material is represented by $380,000 of this amount, the balance is indirect. The next important calculation is the inventory position desired at the end of each period which for the purpose of this comparison is considered to be approximately one month's supply on hand at all times. From Schedule C, Breakdown of Cost of Finished Product, the value of materials required in production of finished goods will be ob-

tained. The total inventory at the end of the month and the amount consumed in production of finished goods is represented in January by $866,145, by subtracting from this the inventory at the beginning of the month ($380,000) we get the figure $486,145, which is the value of material which should be received into factory stores during the month in order to meet this inventory position and at the same time have sufficient materials on hand to meet the demands of the subsequent production programs. Each month in its turn should be calculated likewise.

For the purpose of control the direct materal budget should be broken down into types of materials in quantities and dollar value and in this manner a better control effected over the purchasing department as to their commitment situation. If you will refer to Schedule P-c, you will observe that this point is outlined clearly.

Schedule F—Forecast of Factory Indirect Materials and Supplies. The same procedure as appears under Schedule E, Direct Material, applies likewise to this schedule. In other words, the requirements during the period are obtained by reference to the inventory at the beginning of the period and the factory requirements during the period.

Schedule G—Budget for Factory Departmental Overhead. The breakdown of this budget follows the departmental line-up that the responsibility may fall directly to the foreman or division superintendent of each department. It is prepared after consideration is given to the production schedule and by review of past accomplishments. In our practice the foreman prepares, with the aid of the accounting division and past experience, his estimate of expenses for a given production. This is then reviewed by the superintendent of the various divisions and an agreement reached between the accounting and production organizations as to the standards that are to be established for the period. These figures are then woven into the general budget and, of course, the final approved by the budget committee. After the figures are approved by the budget committee, the foreman and inspectors participate in a bonus measured by their departmental effectiveness against the budget.

Schedule H—Forecast of Insurance, Taxes, etc. These expense items appear in this set up as an item of factory overhead

for convenience in following all figures. In actual practice, of course, the amounts would be specifically applied to either factory, selling or administrative cost. The function of this statement is provision for the cash expenditure for this type of expense during the period.

SCHEDULE K—BUDGET FOR PLANT ADDITIONS. This budget is prepared jointly by the plant engineering and production superintendents, in consideration of the proposed production schedule for the period and company policy. Each item on this budget is given a separate authorization number and separate costs calculated for each, so that the attainment may be had and the over or under cost on each particular order identified for consideration by the budget committee.

In the preparation of this budget, estimate should be made of the months in which expenditures are expected to be made so that the cash budget will provide the moneys as and when needed.

SCHEDULE P—COMPARISON OF BUDGETS VERSUS ACTUAL AMOUNTS, MONTHLY AND TO DATE. The following comparative schedules are prepared:

Monthly Report Cash Budget
Monthly Report Sales
Monthly Report Direct Materials
Monthly Report Factory Cost of Finished Production

These statements are by no means conclusive, being representative only of certain monthly reports which should be prepared for the management so that they may intelligently picture the actual accomplishment against budget estimates and be presented with detailed information supporting the variations as to cause.

SCHEDULE P-b—SALES UNITS. This comparison in our practice is made available not later than the 8th of each month. It is extended to include production for the month and inventory at the end of the month. The relation of sizes to total is an important factor in the detail. We arrange our reports so that we have our:

Estimated sales ratio
Actual current month ratio
Three months' average ratio
Inventory.

This picture permits of fairly intelligent planning of factory production schedules.

SCHEDULE P-c. This schedule covers the comparison of the direct material budget. Each class of material is listed. In addition to the estimated and actual purchases, the estimated and actual inventories, we insert on the same report receipts and consumption. This is simply to secure as broad a viewpoint as possible and reduce the number of reports.

SCHEDULE P-d—FACTORY COST OF FINISHED PRODUCTION COMPARISON. This illustrates the composite comparison. A similar comparison is compiled by the accounting division each month for each department and division in the factory. In other words, we have found that it is essential for operating cost control, for the factory foremen to have before them a detailed analysis of their budget and their actual expenses. As a matter of fact, in our experience a substantial reduction in cost from an overhead standpoint has been accomplished through the factory personnel and their interest can be created by furnishing them with figures which they can understand and use, hence the necessity for sufficient detail furnished promptly.

Summarized briefly our activities under budgetary control:

A. Budgets for
   (1) Sales units
   (2) Factory cost:
      (a) Direct material
      (b) Direct labor
      (c) Overhead requirements

B. A constant check of actual conditions against the forecasted conditions, with reviews and revisions of budgets when and where necessary.

C. Probably the most important, an effort *at all times* to present not only to the management but to all interested members of our organization, figures from our accounting records which allows each department to know what their operating cost is and how it compares with a predetermined standard and the budget for the period.

CHAIRMAN: That is one of the finest papers on budgets I have ever listened to, Mr. Bechler, and I want to thank you.

I wonder if many of you realize the contribution that has been made by the Budgetary Control Committee of the Rubber Association as represented in this pamphlet. I do not know of any other association that has come within forty miles of accomplishing what this committee has accomplished and which I understand has been headed by our own Mr. William Cutter who is Vice-President and Treasurer of the Association. I don't know of any publication that any of you could read with greater profit and interest than this particular publication. It seems desirable that the paper that has just been read and the one about to be read should be discussed jointly, so we will proceed with the reading of the next paper.

The next paper will be read by Mr. Earl D. Page, Assistant Comptroller of the United States Rubber Company. He has served in various capacities with such companies as the Quaker Oats Company, Lever Brothers & Company, and since 1919 has been in the office of the Comptroller of the United States Rubber Company. Since that date he has had charge of installations, the working out of budgetary control, and apparently has had a wealth of experience in the Comptroller's office of the United States Rubber Company. He will discuss, I understand, the forecasting and budgeting of cash requirements and commercial costs. I have pleasure in presenting Mr. Page.

EARL D. PAGE: I don't know that there is anything left for me to say after Mr. McKinsey's talk and Mr. Bechler's paper and the fact that this pamphlet is very complete in itself.

Mr. Page read his paper.

BUDGETARY CONTROL PROCEDURE RECOMMENDED BY THE ACCOUNTING COMMITTEE, RUBBER ASSOCIATION OF AMERICA, INC.

EARL D. PAGE

United States Rubber Company, New York City

THIS paper covers the commercial and financial schedules in the budgetary control procedure.

The descriptive pamphlet on the budgetary control methods

in the rubber industry adequately describes the budgetary procedure in detail; therefore, to eliminate repetition my remarks will stress some of the important factors in the various budget schedules and in some instances amplify the explanations.

SCHEDULE A—FORECAST OF SALES UNITS AND CALCULATION OF SALES VALUE OF PRODUCTS. Forecasts of sales are compiled by major commodities and by groups of commodities, which are the same, or can be grouped the same, as the established classifications used in the compilation of the regular records and reports reflecting the actual operations of the business. This is necessary for comparative purposes.

In most instances it is advantageous, for budget purposes, to use the most detailed commodity classification possible for the sales, as it aids greatly in controlling the merchandise turnover of individual commodities, by scheduling production and fixing inventory positions in keeping with the sales volume. In using a broad commodity classification it may result in numerous inequalities in the merchandise turnover of individual commodities, although the merchandise turnover of the total inventory may be satisfactory, thus resulting in an overage or shortage which may seriously affect the sales and profits of certain commodities.

There are, of course, numerous commodities that from the nature of the product make it impractical to estimate individually or in units. These commodities are classified in groups and estimated in dollar value only.

Sales should be estimated in units as well as dollar value for every commodity possible. The control of sales volume, inventory position, and production is more easily accomplished in units than in dollar value, as changes in selling or cost prices do not affect the units.

Although sales budgets may be compiled in various ways, they must in the final analysis for financial and accounting purposes be prepared as follows:

(1) By commodities or groups of commodities.
(2) By dollar value or preferably units and dollar value.
(3) By shipping months.
(4) By classes of customers or by months in accordance with terms of sale if classes of customers do not receive like terms.

These four classifications of sales provide the bases for determining dollar value sales, cost of sales, gross profit, inventories, production, accounts receivable, cash collections, and cash discount on sales.

SCHEDULE H—FORECAST OF INSURANCE, TAXES, ETC. Mr. Bechler has covered this schedule from a factory standpoint. Items of this nature are included in the Schedules I-a to I-e on a cash basis.

SCHEDULES I-a TO I-e. The schedules for selling expenses, administrative expenses, corporate income credits, corporate income debits, and corporate finance expenses are first constructed by various departmental executives on an accrual basis, based on past performances and on the anticipated increase or decrease in the volume of business for the budget period.

The conversion of the accrual estimates to cash can best be accomplished by an analysis of the accruals from a cash standpoint without necessarily using the fine breakdown indicated in the schedules. For example:

Selling Expenses

Salaries and Wages—all salaries, wages and commissions by monthly pay dates.

Traveling and Entertainment Expense—same as accrual estimate.

Rental Expense—all rental expense by payment dates, excluding depreciation.

Branch Warehouse and Shipping Expense—by payment dates, excluding depreciation and salaries and wages included in first item.

Office and Miscellaneous Expense—by payment dates, excluding depreciation.

Bad Debts—not a cash item.

Advertising—by payment dates except salaries which are included in the first item.

Administrative Expenses

The same general basis as Selling Expenses eliminating noncash items.

Corporate Income Credits

Corporate Income Debits

Corporate Finance Expenses

The total of the cash receipts or payments may be used for each of these schedules as outlined by the accounting committee of the Rubber Association of America, but it probably will be found more practical to estimate separately and include as separate items in Cash Budget, Schedule N, any large cash receipts or cash requirements, such as dividends received or paid, taxes, property expenses (extraordinary), interest received, interest paid, and interest on bonded debt.

It may also be found more advantageous to incorporate estimates of property expenses (extraordinary) in the plant additions budget, thus placing the responsibility for the estimate and performance with the plant engineer.

If the cash estimates for the various Schedules I are compiled in the foregoing manner, it will eliminate the necessity of constructing Schedule J, Miscellaneous Adjustments.

SCHEDULE J—MISCELLANEOUS ADJUSTMENTS. As explained under the various Schedules I, it is believed that this schedule is not necessary. The inclusion of Schedule J in Schedule N, Cash Budget, increases the cash receipts and disbursements by the amount of the non-cash items. These non-cash items do not affect the net balance, but the cash receipts and cash disbursements totals are overstated by these amounts. The same is true of the non-cash items included in Schedules C and G.

SCHEDULE L—FORECAST OF COLLECTIONS FROM ACCOUNTS RECEIVABLE. It is necessary to consider the following in constructing this schedule:

(1) Analyze the accounts receivable at the beginning, segregating the amounts due each month of the budget period in accordance with the sales terms, slow paying accounts, uncollectible accounts, cash discount, and deductions such as freight allowances.

(2) Analyze sales budget for the amounts due each month of the budget period, in accordance with sales terms, taking into consideration a lag in payments by customers (this may be done by using a percentage based on past experience, considering also the financial conditions in general in the budget period), cash discount, anticipated losses due to uncollectible accounts if the budget extends over a period of months, and deductions.

(3) The recapitulation of the analyses of the "Beginning Balance" of accounts receivable and sales budget will provide the

estimated collections, suspense accounts (which accounts will remain in the accounts receivable balance), uncollectible accounts, cash discount and deductions.

The recapitulation of these analyses will provide the necessary data to compile this schedule.

SCHEDULE M—ESTIMATED PROFIT AND LOSS STATEMENT. This schedule is self-explanatory except that in actual practice the cost of sales amount is transferred in total from Schedule B, no analysis being given for the cost of sales.

Supplementary schedules of Schedule M by commodities, for sales, gross profit and net operating profit, are very valuable and in many instances it is desirable to have additional schedules by commodities for selling expense and administrative expense.

SCHEDULE N—CASH BUDGET. It will probably be found more practical to confine the cash budget to cash items only, eliminating non-cash items as mentioned in my previous remarks concerning Schedule J.

It may also be found advantageous to incorporate as a part of Schedole N a notes payable section at the foot of the schedule, which can be constructed as follows:

Notes payable due at beginning of month
Money required to borrow less notes payable due
Notes payable due at end of month

If on the other hand the cash situation is such that investments should be made, schedules of the contemplated investments should be added to the cash budget.

If it is necessary to borrow money in view of the cash situation, the Schedule I, Forecast of Corporate Finance Expenses, has to be corrected to include the future interest on borrowed money.

SCHEDULE O—ESTIMATED BALANCE SHEET. If it is found that the estimated balance sheet constructed from various budget schedules reflects a financial position which requires changes in policy, it is necessary to reconstruct the budgets affected and compile a new balance sheet.

The estimated balance sheet may be accompanied by supplementary schedules, by commodities for finished goods, goods in process, and materials and supplies, and by divisional authorities for cash, accounts receivable, and property and plant.

SCHEDULE P—COMPARISON ACTUAL VERSUS BUDGET. The Rubber Association Manual provides four comparative schedules for illustrative purposes only. The various comparisons of actual versus budget monthly and to date can best be decided by the conditions in the individual companies, but they should embrace the balance sheet, profit and loss statement, and cash budget.

Summarized—the final test of a budgetary program is the careful interpretation from an operating and financial standpoint of the profit and loss statement, balance sheet, and cash budget, which, if properly constructed, clearly indicates the financial and operating policy of a company for the budget period, as these budgets are the summarization of all other budgets.

CHAIRMAN: I think a word of commendation is due to both of the last speakers. Though connected as they are with a particular industry, their discussion has avoided altogether any technique as relating to the rubber industry, and has been conducted along general lines and therefore is of general application. Let's have the questions.

F. S. CRAIG, *Edward J. Dillon & Company, Kansas City, Missouri:* I notice that the statements do not provide a showing of the surplus account tying up the balance sheet at the beginning and end of the period.

MR. PAGE: That is correct. There are other statements in the pamphlet which have illustrative figures that require further analytical statements for reconciliation purposes. For example, Schedules I in the cash budget Schedule N agree in total, but for illustrative purposes the individual months are indicated as one-sixth of the total, whereas in actual practice the Schedules I would have to be converted from an accrual to a cash estimate by months as indicated in the paper which I have just read.

BOYD R. MAXWELL, *Armstrong Cork Company, Lancaster, Pa.:* Have there been any figures to show whether the cost of keeping the budget is in keeping with the savings made by the budget?

MR. PAGE: It would have been extremely difficult for our particular company to have operated without a budget since 1921 regardless of the cost of operating the budget; therefore the cost has not been questioned. Incidentally, the budgetary figures are

prepared in various departments without additional personnel and the consolidated statements are constructed by three statisticians who are regularly engaged in other work. I have been asked this question many times in the New York Chapter and other places. Why is the cost of operating a budget always questioned? We all know that it is necessary to bear the cost of supervising factory operations, selling operations, etc., and as supervision in a business is the accepted business practice, the cost of supervising is not continually questioned. Personally I feel that budgetary control is more important to the business than the control of individual units of the business, inasmuch as it embraces the entire activities and the cost feature should be disregarded until the budgetary procedure has been installed and operated successfully. As business conditions are today as pointed out by various speakers, as read in the newspapers and elsewhere, it is fairly safe to state that any competitive business not operating on a budget in the next ten years will not, I venture to say, last the next ten years. Does that answer the question?

MR. BECHLER: From our experience we have found the majority of this expense can be absorbed in the regular accounting organization. It is only the additional analytical labor of one or two people that may have to be added to an organization that is necessary.

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* In Schedule E, Forecast of Direct Material Budget and Inventory Requirements, I am wondering why the receipts are carried forward in the same amount to the next succeeding month.

MR. PAGE: It is our experience in the rubber industry that the receipts for one month are the cash requirements for the next succeeding month. In other words, the terms of the trade for purchases "over all" are on the 30-day basis; therefore, the receipts for February become the cash requirements for March, etc.

CHAIRMAN: Are there any other questions?

E. J. DILLON, *Edward J. Dillon & Company, Kansas City, Mo.:* How long a period after the installation of your budget do you find it working first class?

MR. PAGE: Our cash budget, which was installed first, was very effective within six months and it was at least two years before we received very beneficial results from the complete budgetary program. There are still a number of things that we would like to do that have not as yet been accomplished, but we are working continuously toward the goal.

A. B. BEAVERS, *W. Wharton, Jr. & Company, Easton, Pa.:* Assuming the accounting men were enthusiastic about the budget but the management was not, what are some of the good psychological or selling arguments they would advance to win them over?

MR. PAGE: It is generally true that everyone has considerable difficulty in starting a budget. It is my opinion that if you can make the operating executives realize that a budget is not an accounting scheme, but is instead an operating plan which will broaden the scope of the operating executives activities and at the same time produce financial results for the executives welding the business into one unit of operation, the cooperation may be gained from both operating and financial executives. If on the other hand the budgetary program is constructed along the lines of accounting statistics for accounting purposes only, providing for all kinds of checks which may or may not be necessary and may hamper operating executives authority, you will not get cooperation in budgetary control. The budgetary program in the final analysis is the absolute cooperation between the operating and financial executives of a business.

MR. BEAVERS: I would like to say we have made a little progress along that line, but we proceeded by working down in the shops and forcing the issue up through rather than starting with an organization and going down as you logically do, and as we are having a little difficulty I was wondering if there was not a little heavier psychology which we did not have that we might use.

MR. PAGE: From my experience the psychology of forcing an issue either from the bottom or from the top of an organization is extremely dangerous, as it tends to lose the cooperation of the various individuals and executives in promulgating a plan. This cooperation may be gained by the personality of the personnel handling budgets, or better still, by absolutely selling the principle of

budgetary control to the rank and file. It may be found that some essential feature of budgetary control will not be accepted by certain executives at a particular time, and to force the issue at that time accomplishes no good purpose. By deferring any action with respect to the point involved until some more opportune time, generally results in finally enlisting the cooperation of the individuals not in sympathy with some particular issue. Our budgetary program was started with a cash budget and we had the usual difficulties. After these difficulties had been surmounted we commenced work on a full line budget on an accrual basis, which necessitated more difficulties some of which have been or are gradually being surmounted. To summarize—Do not force an issue. Sell it at one time or another.

W. S. KEMP, *Holtzer Cabot Electric Company, Boston, Mass.:* In the estimated profit and loss statement which has to do with sales, I understand you have a classification of sales, and a variation of sales expense as related to those sales. Then you have your administration expenses which must be applied to the various classifications of sales. Will you tell us on what basis you distribute the administration expenses?

MR. BECHLER: The part of this pamphlet that has to do with the manual of accounts explains fully and completely how administrative expenses are distributed or prorated to the various selling bases. We attempt, in so far as we are able, to make direct application. Failing that, we use the sales dollar. It is comparatively easy to make direct application to the major commodities such as tires, footwear, mechanical goods and hard rubber. For departments within those groups, the sales dollar is used. Does that answer your question?

MR. KEMP: Yes.

CHAIRMAN: Are there any other questions?

PAUL C. CROSS, *Waterman Waterbury Company, Minneapolis, Minn.:* How much of a sales decrease or increase do you have before you revise your budget? In the case of increase or decrease in sales, about what per cent would it be before you revised the budget?

MR. PAGE: The change in the budgetary program due to the increase or decrease in sales cannot always be governed by a fixed

percentage before a change is made. A commodity may have a 100% increase, but the entire sales volume of this commodity may be a small percentage of the total and therefore does not seriously affect the whole budgetary program. On the other hand, if an increase or decrease in the sales is over 1% for a general commodity like tires which is a large proportion of the sales volume, it would necessarily require a change in the budgetary program. In the event of an increase or decrease in the sales caused by a price revision, a careful survey of the entire situation should be made and a decision made as to whether or not the various budgets should be changed in view of the change in business conditions, regardless of the percentage of change.

MR. BECHLER: I might add that one of the points that I tried to make in my paper was this: Forecasts and budgets need constant review and revisions and don't be afraid to revise them either upward or downward. You must be up to date in your forecasts, the same as in your accounting record. If you want to recognize a 1% fluctuation in sales and find that after three months it isn't necessary, don't be afraid to drop it and move to a 5% basis. I believe that is our answer.

CHAIRMAN: I don't know how you feel about it but I think we spent an exceedingly profitable morning and I think a rising vote of thanks is due to Mr. Warner and his Committee, Mr. Page and Mr. Bechler and Mr. McKinsey. Will you please do that?

The audience gave a rising vote of thanks.

CHAIRMAN: The meeting is adjourned.

SESSION VI

FORECASTS, BUDGETS AND CONTROLS

THURSDAY AFTERNOON, June 16, 1927

This session was organized under the direction of

P. J. WARNER

President, The Ronald Press Company, New York City

and

E. F. KITENDAUGH

Oneida Community, Limited, Oneida, N. Y.

MORTON J. BAUM was graduated from the University of Pennsylvania in 1918 and received a Phi Beta Kappa key. Entered Hickey-Freeman in March, 1919, and at present is Assistant Secretary and Merchandise Manager.

G. R. LOHNES, after leaving high school, spent four years in the drug business, during which time he studied bookkeeping and accounting under a private instructor and took courses in a correspondence course with the American Correspondence School of Chicago. Following this he took the Pace and Pace course in accounting and commercial law at the local Y. M. C. A. at night. He spent three years teaching bookkeeping and accounting in the night classes of the local high schools. He was employed in the accounting department of The National Cash Register Company in 1910, later becoming head of the Foreign Accounting Division. In 1920 he was made Assistant to the Comptroller and in March, 1926, was appointed Comptroller. In March of this year Mr. Lohnes was elected President of the newly organized N. A. C. A. Chapter in Dayton.

E. F. KITENDAUGH was graduated from Northwestern University. Thereafter he was employed by Arthur Dixon Transfer Co. as private secretary and collector. He then obtained a position with Benjamin Allen & Co., wholesale jewelers of Chicago, and later one with the Oneida Community, Limited, as salesman for the Chicago office. He was given the managership of the Cleveland territory, and was transferred to New York City as Manager of the Community Silver Department. He next went to the Accounting Department in which he has been ever since. In addition to being Auditor for the past fifteen years, Mr. Kitendaugh is also Manager of the Insurance Department, and for six years was Manager of the Legal Department. He has been with the Oneida Communuity, Limited, for twenty-three years. He was the second President of the Syracuse Chapter, and is one of the National Directors of the N. A. C. A.

W. F. WOODBURY was educated in England and spent five years in the accounting field in that country. Fourteen years in the United States made up of: three years in the Public Accounting field, six years with the General Motors Corporation: two years each General Auditor of the Chevrolet Motor Company, General Motor's Central Organization and Comptroller of the Samson Tractor Company, five years Comptroller of The Wahl Company. Mr. Woodbury is President of the Illinois Institute of Accountants, Director of Publicity of the Chicago Chapter of the National Association of Cost Accountants, and an active member of the Financial Executives Division of the American Management Association, having addressed several of their conventions.

FORECASTS, BUDGETS AND CONTROLS

PRESIDENT FINNEY: Without any further announcement on my part, we will go right ahead with the continuation of this morning's session, "Forecasts, Budgets and Controls," and without any word of introduction Mr. Warner will preside at this session.

Mr. Warner took the chair.

PRESIDENT FINNEY: I want to rectify a little oversight on my part. We have with us at this session the President of the Canadian Society of Cost Accountants and, if you will permit me at this point, I would like to introduce to you Mr. Lorenzo Belanger.

LORENZO BELANGER, *President of the Canadian Society of Cost Accountants:* Since I am here in a dual capacity as a member of the National Association of Cost Accountants and Chairman of the Dominion Board of the Canadian Society, I am glad I have not missed the whole convention. It was impossible for me to reach Chicago before last night. I notice by the bulletin that this is the largest gathering ever held, and I congratulate you all.

We will have in Montreal a convention of the Canadian Society which will be held in September. I don't know whether the number, quality or quantity will satisfy our ambitions, or be as successful as your convention, but at any rate, I tender here an official invitation to all members of the N. A. C. A., and I sincerely hope we will have quite a representation.

Montreal has many interesting features. We can look after your intellectual as well as your spiritual welfare. Some say when we are through with the overhead problems, the inner head is quite a problem, and sometimes it reaches underfoot. At any rate I tender you an invitation, and I hope you will convey the same invitation to the ladies who take such a deep interest in our work. I believe our good wives and ladies are the pioneers of cost accountants and budgeteers, as we call them.

CHAIRMAN: I don't believe there is any occasion for remarks on my part as to the plan of the meeting.

The first one of the speakers is a member of our Association, the Rochester Chapter. He is not at heart an accountant, at least he claims he is not, but he has had a very interesting experience with budget work, and I think a very instructive one. It gives me great pleasure to introduce Mr. Morton J. Baum, Assistant Secretary and Merchandise Manager of Hickey-Freeman Company, Rochester, New York.

MORTON J. BAUM: Mr. President and Mr. Chairman, and I am glad to say, fellow members of the N. A. C. A.: I really didn't know until Mr. Warner's introduction that I was a member. I applied several weeks ago, but you know how long it takes to get a formal acknowledgment.

I was planning to start the session this afternoon by telling a good Scotch story, but I see Dr. McLeod is here, and I know he reserves those for himself, so I will have to get right down to business.

Mr. Baum then read his paper.

HOW THE HICKEY-FREEMAN BUDGET WORKS

MORTON J. BAUM

WHEN I look over the array of auditors and comptrollers who addressed you this morning and the auditors and comptrollers who are to follow, it seems rather presumptuous for me to address the N. A. C. A. on a subject as technical as budgeting, since my education has included no specific accounting training. Yet I think this really makes it more fitting for me to be here, since I partcularly wish to stress the need for other than accounting points of view in the development of budgets. The budget should be a tool of management rather than an end. Too often, figures alone are used without giving due consideration to practical merchandising problems. This developed a rigidity in application which is harmful not only to the business results but also to the organization.

THE COMPANY. By way of background for what is to follow, I think it would be well to say a word about the Hickey-Freeman

Company. We are engaged in the manufacture of the very finest ready-to-wear men's clothing, and enjoy a national distribution. We employ approximately 2,100 people and do on annual business of over eight millions.

The men's clothing industry is a specialized one and the problems of the Hickey-Freeman Company are not necessarily common to others in the industry. It is, therefore, well to bear in mind that some things presented in this paper will not apply to every business or even to other firms in the same industry.

THE CLOTHING INDUSTRY. The men's clothing industry is a seasonal one. By that we mean that there are two well-defined seasons —spring and fall. Consequently the Hickey-Freeman Company closes its books twice a year—at the end of the spring season, May 30, and again at the end of the fall season, November 30.

Since the budget is a tool of management, to be effective it must tie in with the policies of the company and also with the organization set-up. Consequently our budget period is likewise of six months' duration and budget estimates are made twice a year—spring and fall—and tie in with our accounting procedure and our merchandising policies.

BUDGETING. The budget idea, the idea of making plans for the future, is as old as business itself. However, the carefully worked out detailed estimates of future activity and the checking of the actual against these estimates, is relatively new.

It is this latter procedure that we mean today by budgeting. Hence this paper will deal not only with our actual budget operations, but also with our plans for future budgets. I say plans for future budgets because we know that we have not as yet covered all the elements of our business which should be budgeted. The establishing of those budgets now in operation has been a gradual process, beginning with the installation of orderly management in our production phases. Rather than revolutionize the management of our business, we have tried to evolve new plans in the various departments as occasion presented itself. This has been done entirely from within and the accomplishments have been spread over a period of years. This has permitted the business to function smoothly and harmoniously, while at the same time we have been working toward a definite final plan which we hope to complete in the near future.

SALES ESTIMATE. In operation, our budget plan very naturally starts with a sales estimate. At present this sales estimate is arrived at in a conference of the chief executives and salesmen. Sales for the past few seasons are carefully studied and the total sales of the preceding corresponding season used as a base. In other words, there are situations which occur in the spring of the year and do not occur in the fall, and vice versa. Therefore, we have to make our comparisons not with the preceding six months but with the six months that correspond to the same season, which would mean a year before. A percentage is then added for a normal growth and the result modified by our estimate of business conditions in various sections of the country. The net sales estimate is a conservative one—one which at least will be reached and in all probability exceeded. At present it is not a goal or bogie to aim at but more of a deadline below which we do not think our sales will fall.

Of course, this is largely a "rule-of-thumb" estimate, but it has answered our purpose up to the present time because our sales have shown a remarkably steady growth each season. We realize, however, that this is not a safe procedure and therefore have taken steps to introduce a little more direction into our sales. We are gradually building up an orderly sales management along lines similar to our production management, since we feel it is not wise to permit the salesmen to be in full charge of their territories and to have their judgment on any situation final. For the substantial progress of our business, we think it is necessary that the management be in touch with the territories, both to help the salesmen at points where they are weak and to see if the best results are being obtained in each territory.

In addition, we are planning to supplement the salesmen's work by assisting the merchant to resell our product to the consumer. This is an added service, very vital to the success of any business, and one which the salesman frequently is not in the best position to render.

As the first step in the control of sales management, each salesman was asked to estimate his probable sales for the season, and we are now planning to check the actual sales against this estimate. A little of this work has already been accomplished, and the first steps are encouraging. We believe, therefore, that very shortly we will have two sales estimates—the first, an optimistic estimate,

which will serve as a goal or bogie to aim at and will represent the total of the salesmen's individual estimates of what they think they can sell; and the second, the conservative estimate, representing what we think we surely will reach. It will be this latter estimate that we will use in setting our woolen, production, and overhead budgets. At present this sales estimate is made about six weeks before the salesmen go out on the road and about three months before the actual fiscal period begins.

I think it would be well to explain one item which may be peculiar to our business or rather to the clothing business, namely: that the salesmen go out for the selling of fall merchandise early in April and stay out about six or eight weeks. At that time they book a large percentage of what is to be sold in the fall, probably 70% or 80%. So that by having the sales estimate made six weeks before the actual budget period begins, it almost corresponds with the time the salesmen leave for the road, since June 1 would be the date for the actual fiscal period, and six weeks prior to that would be about April 15.

Production Budget. For the purpose of the production budget estimate, the dollar sales estimate must be translated into physical units. In making the transition, past figures of actual production as compared to dollar sales are used together with average prices per garment. The estimate of the number of garments to be produced during the season is then turned over to the factory and production managers, who decide how many units each shop must produce daily to attain the required total for the season. This daily estimate is then compared with past performances and necessary additions or deductions in shop personnel, supervision and all equipment are planned. And, after careful deliberation, daily production quotas are set for each shop.

During the actual production season the production manager receives each day a report covering the actual production of each shop for the preceding day as well as the number of manufacturing orders issued, garments trimmed, garments cut, number sent to the shops, and the number finished. From these reports the production manager can readily tell just how the work is progressing at each stage of manufacture. If production is falling below the budget, the cause is immediately sought and the trouble remedied. In other words, this is a daily check, by means of which we can get

at any trouble quickly, rather than wait till it has gone so far that it is difficult to straighten out.

PRODUCTION REPORT. At the end of every week a master production report is prepared and sent to all major executives. This report is entirely in physical units and shows for the current week, as well as the totals to date, the following: orders received, orders filled from stock and the difference, or the orders for manufacture. Added to this are the mail orders, specials and single mail orders, and garments to be manufactured for stock—the total being the net orders to manufacture. Against this total are shown garments laid out for manufacture, garments in work in cutting, quantity cut and the balance ahead of assembly. Then for each shop—coat, pants, vest and overcoat—are shown quantity sent to shop, quantity in process, and total finished. Then at the bottom of the report are shown the orders shipped. The report gives a complete picture, in minute detail, of the progress of the entire production process—from orders received to garments shipped.

A glance will now show how many units are to be made, how many have been made, how many are in process, and whether the present rate of production will completely manufacture the orders received.

The importance of this production budget and control cannot be over-emphasized. Without such a control there would always be danger of finding ourselves at or near the end of a season with an impossible amount still to be manufactured.

Another element that enters into this is the fact that our product is a seasonal one and is largely dependent on style, which means that our ordinary delivery dates are limited. We must complete our original orders by a definite date, and after that date the quantity of goods still on hand materially decreases in value. That makes it very important to work for a certain date, and we must know through the season just what progress we are making toward that date.

RESULTS ACCOMPLISHED. Not many years ago our business was entirely seasonal. Between seasons a great reduction in our labor force was necessary, because of lack of work, while at the peak of the season overtime was regarded as absolutely necessary. Even so, our customers complained of poor deliveries and felt free to return

late merchandise. With the installation of our production budget control, together with certain changes in merchandising and an advance of the selling season, we have been able to eliminate the seasonal element, give our customers 100% better deliveries and practically eliminate overtime—all this in spite of constantly increasing volume. Such a record would have been impossible without an adequate and efficient production control.

Today our shops are kept busy the year round with little, if any, overtime or lay-offs, and every season we make better deliveries.

Woolen Budget. Perhaps the budget that has been of greatest benefit to us, and the one which has saved us the most in actual dollars and cents, is our woolen purchase budget.

Before going into the operation of this budget it is well to bear in mind that our woolen problem is a special one, differing from that of most clothing concerns. The Hickey-Freeman Company caters to the very highest class of trade and our product depends for much of its appeal on the attractiveness and exclusiveness of the woolens. Consequently, over 50% of our styles are imported and about 95% are confined exclusively to our house. This means two things: first, that they must be contracted for very early to get satisfactory deliveries; and second, that they must be purchased in large quantities. In order to get an exclusive style we must buy from the mill at least four pieces, which will make 60 suits. If we went into the open market at a later date we could buy one piece at a time, which would make only 15 suits.

If there are open styles which any manufacturer can buy, the mill gets the accumulation of orders and is able to manufacture efficiently and still deliver one piece at a time to a customer. Where styles are confined to one house, a sufficient quantity must be placed on each to make it worth their while to manufacture, and the minimum amount, especially in the domestic market, is four pieces. Consequently, we must work further ahead than most houses and buy larger quantities early.

Preliminary Budget. Let us take an actual season, say the spring of 1928. Our buyers sailed for Europe May 21, 1927, to contract for our woolens. By the time they left the preliminary woolen purchase budget was ready. This preliminary budget is set as follows: Experience has shown that an early purchase covering approximately 70% of our preceding spring's business will

give us an adequate working basis. The other 30% can be reordered later. We plan then to cover with our early purchases approximately 70% of the current season's requirements. The preliminary budget takes care of 70% of each of our classifications. For example, 70% of our specialties such as Glen Spray, Travelwear, and Londonaires: 70% of each of the price ranges, and the same percentage of staples, dress goods, etc. In other words, we take 70% of our last year's requirements and break this total up into 70% of each of its component parts.

Before the budget is worked out, we confer with the buyers to get their point of view and their judgment of the market conditions.

In other words, we try to set the figures from a practical standpoint. The market conditions might be somewhat different, and for that reason past experience alone cannot be used. That makes it wise for us to get in touch with the people who will actually do the buying and see what they think about it.

Then in deciding upon our price ranges the trends of the season immediately preceding the fall 1927 are carefully watched. Orders are analyzed and studied for trends of styling and coloring, and price. It is the latter that determines our price groupings.

Using all this information, the preliminary purchase budget is drawn up. This budget specifies the number of suits, and the number of pieces of cloth to be bought for each of our specialties, and for each of the price ranges—specifying whether it is to be purchased abroad or at home. The number of styles within a range is left to the discretion of the buyers.

Since this is a style product, it is very essential that the discretion of the buyer who is frequently a salesman should be given free sway.

Armed with this preliminary budget, giving the exact quantities to be bought for each range, the buyers sailed for the European markets. The buyers are to keep within these budget figures and to buy exactly as specified. Buyers are also working in the domestic market along the same lines. In case the foreign buyers find something which can be purchased more advantageously abroad than at home, they cable our New York office asking what commitments we have made and what proportion they can and should cover. They work abroad until approximately August 1, or two months.

FINAL BUDGET. By the time they return, the middle of August, our spring 1927 season will have been completed and our fall 1927 season will be well under way. This means that we will have much added information as to style tendencies, price tendencies, and business conditions. The final woolen budget is then made out. Foreign and domestic purchases are laid out and, with the line all together, additional styles are specified to fill in certain places. Staples are budgeted and specified, and the final budget, covering the full 70% of our probable requirements, adopted as complete. By the middle of September the line will be complete and ready for the salesmen to take on the road the first of October. By this time we will have actually purchased 70% of what we expect to use.

During the active selling season orders are carefully watched and the remaining 30% of our requirements ordered. Reorders are placed on the popular styles and business is anticipated. Styles which are not selling actively are dropped as soon as the original purchase is consumed. Sometimes new styles are added if there is a demand. In other words, the 30% not purchased early acts as a safety valve while the 70% purchased early insures us of early and adequate deliveries from the mills.

In addition to that, when the salesmen are on the road we watch our woolens every day, and we watch our sales, to see how the orders are going. If they are going better than we expected, we can keep the line intact, because we can then order more than the 30% which we figured on. If on the other hand the line is not selling actively, we can draw the closed styles down, and reduce the amount we have to reorder.

RESULTS ACCOMPLISHED. Before the installation of our woolen purchase budget some three years ago, "rule-of-thumb" methods were used, the buyers using their own judgment as to how much to buy and in what price ranges. It so happened that our buyers were and also are salesmen and hence by nature optimistic. Invariably the end of the season found us with considerable surplus woolens. We never carry any woolens over from one season to the next, and hence the surplus woolens are always cut into stock which must be sold at a sacrifice.

Since the installation of our budget, the amount left over and consequently sold at a loss has been reduced 50%. Today our sur-

plus stock is at a minimum and we do not feel it would be safe to try to reduce it further because certain of our larger customers demand the opportunity to buy from stock late in the season.

In order to keep the plant going the year round, it is necessary to have a certain amount of surplus work to put in operation and force out the orders, so that we may meet the definite delivery date I mentioned before. Frequently the new orders for the following season are not yet available, so if we have a certain minimum of surplus merchandise, it acts as a very great help in making our production more efficient. So our budget, in addition to reducing our surplus stock 50%, has given us a better balanced line and an active selling one.

Our buyers were the strongest objectors to the installation of our budget system. Today they are its most ardent supporters and we certainly would never be without it.

EXPENSE BUDGET. Perhaps the most complete budget in operation at present is the expense budget. This covers selling expense, manufacturing overhead or burden, and administration expense. Two estimates for each budget period are made: a preliminary estimate and a final estimate.

As I said before, the line would be priced for spring in March, and the actual expense budget period will not begin until June 1. We therefore have a preliminary budget at hand when we are ready to price the line, since naturally the selling price of the merchandise must include the overhead burden.

The preliminary estimate is made three months in advance of the actual period budgeted, and at the time the sales estimate is made. The preliminary estimate is made in totals only, by the budget committee, and is used in pricing the line. It is a liberal estimate and is based largely on past performances. The final estimate, in detail, is made just prior to the beginning of the budget period.

EXPENSE ESTIMATE. The procedure is as follows—all department heads are presented with a budget estimate form containing the actual expenditures of that department for the two preceding seasons, and also the actual as compared with the estimate for the season just passed. On the basis of this past performance and the plans for the future, each department head draws up a careful, detailed estimate of what he expects to do in the coming season.

For example, the advertising manager submits his detailed estimate of the expenditures of his department. Our advertising budget contains 17 classifications. The totals for each classification are made up from the individual items falling under each heading.

The merchandising manager does the same for his department. The production manager submits his estimate of the manufacturing burden under his control, the treasurer does likewise and so with all department heads. Each individual budgets, and is held responsible only for the items over which he has control. These estimates must be in the hands of the budget committee on a definite date, announced well in advance and specified on the budget estimate forms.

When all budget estimates are in, the budget committee goes over each one carefully, calls in department heads if items seem too large or too small and eventually approves each budget, sometimes as originally made, sometimes as revised. The totals of the revised budgets are made to be within the preliminary budget. A copy of the final revised and approved budget is returned to the department head.

The budget department then takes these estimates and breaks them down into monthly estimates. Some of the items can be divided into six equal parts, while others are seasonal and must be divided into six unequal parts. In making the latter division, percentages, based on past experience, are applied. Two months out of every six contain five weekly payrolls and by reference to the calendar, this fact is considered in setting the monthly estimates. Department heads are consulted and make detailed memoranda of the months in which certain large items of expense will come. This information is all used in setting the monthly estimates.

The final expense budget totals must be within the preliminary budget totals used in pricing the line.

Budget Report. On the 5th or 6th of every month budget reports are sent to all department heads. These reports contain the budget and actual for the past month, the cumulative budget and actual to date and the corresponding cumulative actual for last year. The last two columns on the report give the amount over or under the budget to date and the per cent variation. Over expenditures are prominently marked with a star.

The budget committee then goes over the complete budget re-

port in detail and when it deems it necessary or advisable, calls in department heads to explain and justify over or under expenditures. Department heads are held responsible for the conformance of their actual expenditures to the budget estimate.

RESULTS. The importance of the expense budget can readily be appreciated when we realize that prices are set some four months before manufacture begins and that these prices are based on cost of woolens and trimmings, labor and overhead. At the time prices are set we know exactly what our woolens and trimmings will cost, we know our exact labor cost, since a large proportion is piecework, and we use standard labor costs, but the amount of overhead to be absorbed must be estimated. It is in burden or overhead that large variances and discrepancies occur, but with a budget, when we set our prices we have an exact estimate of what that overhead will be and then it is up to the budget committee, in cooperation with department heads, to see that the actual keeps within the estimate.

Our actual budget results for spring and fall 1926 were very gratifying. For spring 1926 our actual expenses came within 0.13% of our budget estimate. This amounted to $890 on a total expense of approximately $650,000. In this total our actual selling expense was 1.4% over the budget, our administration expense 2.7% under, and our manufacturing expense or overhead burden 0.8% over the budget estimate. For fall 1926 our actual expenses came within 1.2% of the budget. Of this total our selling expense was 0.25% under the budget, our administration expense 0.19%, and our manufacturing overhead 2.69% over the budget. Our actual expenses for the 12 months of 1926 come within 0.7% of our estimate or in dollars and cents $9,200 over our estimate on a total expense of $1,340,000.

OTHER BUDGETS. In addition to the above-mentioned budgets, we budget our discount allowed, damaged goods allowances and interest paid. We have not as yet attempted a financial budget covering cash receipts and disbursements except in an informal manner. We have made no attempt at a predetermined profit and loss statement and balance sheet. We hope some day to budget all these items, but we believe in proceeding slowly and carefully.

CONCLUSION. Our budgets have been decidedly successful and have accomplished tangible results. The expense of installing the

system has been negligible. We have rearranged our accounts so that they conform to our budget classifications and our monthly comparisons are therefore made directly with our accounting records. We have one man who devotes several days at the beginning of each month to making the comparisons between the actual and the budget figures. He also sets the budget figures for each period in conference with the heads of departments and the budget committee. This takes but a small part of his time and he acts as assistant to the sales manager in addition.

Throughout our work we have stressed the need of keeping our expenses down rather than fighting to build up our sales volume by "high-pressure" to make larger expenses possible. We believe that a normal growth built on the giving of value is by far the most substantial business. We believe that too much stress has been laid on sales—sales—sales without keeping an eye on the expense of getting and maintaining those sales.

In order to stress that point of view to our management, we have divided our sales volume into that which is done on a profitable basis and that which is forced selling involving substantial mark-downs. Our expense budget is distributed over only the volume which is done on a profitable basis, and we plan on getting cost out of our closeout sales. By cost we mean the cost of woolens, trimmings, direct labor, and manufacturing burden. The figure we watch is any loss in margins due to selling such merchandise below the cost described above. This gives us a much clearer picture for seasonal comparisons and stresses the need for building up our profitable sales volume and reducing, by better merchandising, the volume that goes into closeouts. We are thus not pushing for a larger sales volume regardless of cost, but rather trying to better our merchandising methods so that our sales volume in the profitable division will constantly increase.

In closing I want to stress again our firm conviction of the need for enlisting the cooperation of the heads of departments in the developing of any budget plans. These heads are the "practical men" and can be of great assistance in planning figures which will "work" and in giving that moderating influence which is needed to bring the best business results. This balancing influence is needed throughout business management; otherwise sales will suffer from too much stressing of production or, on the other hand,

costs will go up and business will become less profitable if the sales department is not conscious of what certain "whims" will cost.

CHAIRMAN: I feel, and I am sure that you feel with me that the paper Mr. Baum has just rendered has been most instructive and helpful. It has business sanity all through it. It is not an accounting budget that nobody uses; it is a budget that has been worked out in the consciousness of the business, that they could save money and they could control their production throughout the entire year and keep their force reasonably employed, and feel with certainty they would get an adequate return on the capital invested. I am sure that some of us must have some questions that we would like to ask Mr. Baum. If you people will make them snappy I am sure he will do his best to answer them and give us the information desired within the allotted period.

J. J. MELFI, *Empire Silk Co., Paterson, N. J.:* I would like to ask Mr. Baum whether the idea of carrying surplus merchandise to eliminate the seasonal production has been due to the budget, or is it due to other business factors.

MR. BAUM: The thought of having our business run as evenly as possible the year round, of course, was in the minds of our directors before we started the budget. But the difficulty was that the expense of doing this was very large because we didn't budget. In other words, with the type of product that we make, we feel it necessary to keep our hands constantly employed and skillful, because it is an enormous expense to close the shops for a period of time, and then start them up again. We have felt that it would be to our best interests, not only from a monetary standpoint but from the standpoint of uniformity of our product, to run continuously.

The problem we had to face was how to do that without having too much surplus merchandise on which we would probably have to take a loss. We tried to solve it in two ways. One was to start our actual selling for the following season earlier than we had before. For instance, for the fall selling we used to start about April 20 when we had completed manufacture on our spring orders. With the turnover of at least three to four weeks, you can see, there must be a gap if we are to complete our orders April 20 and start to sell for the following season at the same time.

We therefore pushed our buying, and we were able to start on the active selling between April 1 and April 5. The spring com-

pletion date is still the same, April 20. In that way we are gaining two weeks on the coming season. We were able to get our customers to buy from us earlier, so it paid all the way down the line. This permitted us to shorten the gap and to cut down to about a week or ten days the production schedule which we had to fill in with surplus merchandise, so that we were able to keep the shop going on some surplus merchandise, but not enough to make it too costly to conduct our business that way.

THOMAS J. BURKE, *Cost Association of Paper Industry, New York:* I notice that you close the books twice yearly, and you have weekly reports on units, also that you make your purchases 70% some months in advance of the period. Have you no financial reports to estimate the cash coming in and going out? It takes quite a lot of money to make the purchases.

MR. BAUM: As I said in the paper, only in a limited sense do we do that kind of thing. We are working toward it. We have a monthly accounting statement, working on standard costs both on trimmings and on labor. It is necessary to have the standard costs as near the actual as possible, so the monthly estimates will not have a great degree of variance. That is a problem we have had for three or four years, bringing our standard costs as near the actual as feasible, so our monthly reports at present do not require very many corrections at inventory time.

MR. BURKE: Do you pay cash for the purchases?

MR. BAUM: Yes.

EMIL BLOME, *Mandel Brothers, Chicago, Ill.:* You say the things that apply to your business may not apply to another organization. I would like to ask whether, in your judgment, that budget system would apply to the uniform business, which is not at all seasonal, but has its peaks and valleys, and there is no constancy about it.

MR. BAUM: Of course, I don't know anything about the uniform business. You know from this paper what we are doing in budgeting. I think you are in a better position to answer whether it would apply than I would be. I mean I don't know anything about your merchandising problem. Ours is strictly men's clothing, sack suits, topcoats and overcoats sold direct to the retailer.

W. C. HUSSEY, *Levy Bros. & Adler-Rochester, Rochester, N. Y.:* In the development of the budget, Mr. Baum said the department heads cooperated. I am wondering how far down the line the department heads are interested, whether the foreman takes part in the developing of that budget; if so, after the budget is developed and put in operation, to what extent does the foreman participate in the reports of progress?

MR. BAUM: The reports are largely on the expense budget, and that of course would have nothing to do with the foremen in the shops who would deal largely with either direct labor or the small amount of overhead expense that would apply to that shop.

In the expense budget we do take up with the sub-department heads the question of whether they have adequate help; whether they think they will need additional help, and matters of that character. In other words, the more information we can get from the man that is close to the actual running of the business, the more we are apt to get some very valuable information which we can modify to some extent, if we think it is extreme. But gradually, as the sub-heads get accustomed to doing this, and then get the indication of what their former budget estimates meant, we get more effective budgets. We believe that these conferences elicit their cooperation in seeing that we actually meet the figures that they themselves have helped to set. So far as the foremen in the shops are concerned, they have had very little to do with it.

H. C. DAINES, *University of Chicago, Chicago, Ill.:* I should like to ask if as merchandise manager you have complete charge of the budget procedure in your company. What is the relation of the accounting officer to it?

MR. BAUM: I have complete charge of the budget procedure that pertains to merchandising, that is, particularly the woolens. As far as the expense budget is concerned, I sit in at the setting of these figures, but some men also help who are closer in touch with the accounting procedure. We have a budget committee of three or four that usually sets most of the budgets. Although the woolen budget is not set that way, the expense budget is. The production budget is set with conference of a group that have to do with production.

In other words, we are trying to get any help we can from the men who are on the firing line. I found especially in the retail

end of the business, that too frequently figures are set, and they are rigid, and the man that sets them knows very little about the merchandise itself or the selling of it; all he knows is that they have so-and-so many dollars of inventory. Whether it would be to their best interests to work off this inventory slowly or put a lot of pressure behind to work it out, isn't always considered.

MR. BURKE: Would you mind saying who is on the budget committee?

MR. BAUM: The budget committee itself consists of Mr. Brayer, who takes charge of the comparisons and works on all of the subdivisions of the figures; Mr. Masucci, who is our assistant treasurer, in charge of accounting and credits; Mr. Hickey, who is the president, and myself. Then Mr. Brayer and I usually have the conferences with the department heads. We try not to make radical changes in the recommendation of the department head.

ROGER H. JOHNSON, *Middishade Co., Inc., Philadelphia, Pa.:* Mr. Baum, in figuring out your production for the period to come, what importance does the style change have? Is that of very great importance? Can you get rid of your merchandise from one season to another, or is the change so great that you can't dispose of it?

MR. BAUM: The large part of our merchandise would have the style element in it. In setting the production schedule we have the sales that have already been made for the coming season as a basis. As I said before, those early sales will represent 70 to 80% of what we plan to sell. The items that are manufactured later for stock, part of which are sold on a profitable basis and some of which are not, are what we have left from our original purchases. We feel that in our particular business it is well each season to have new things, so we try to clean up all of our style merchandise from the preceding season in the season in which it was bought. We think the first loss is the best one to take, if there is a loss to be taken. Of course, anything of a staple or semi-staple character could be handled in a different way.

CHAIRMAN: We will proceed with our meeting. I am sure we have all enjoyed our first paper and have profited a lot by it. Mr. Baum admitted, confessed, he was not an accountant. I personally have my doubts.

The next speaker is a sure enough accountant. He has devoted his entire business career to accounting and has taught it. Now he is with a concern that has a great deal to do with accounting. He is a very active member of our Association, and he is the president of our youthful chapter, not our baby chapter, Dayton.

I take great pleasure in introducing Mr. G. R. Lohnes, the Comptroller of the National Cash Register Company, and also President of the Dayton Chapter.

G. R. LOHNES: I am very glad to receive the applause at the beginning because that assures me I am going to at least get some applause.

I asked Mr. Warner why he picked on me to discuss budgetary control at this convention. His answer was he felt the youngest chapter should have some representation. That didn't say much for me.

Mr. Lohnes then read his paper.

BUDGETARY CONTROL

G. R. LOHNES
National Cash Register Company

BEING assigned the task of discussing budgetary control at this convention I have asked myself these questions:

(1) What is budgetary control?
(2) Why are so many people interested in budgeting?
(3) How would I prepare a budget?
(4) How can I use the budget?
(5) What advantages are to be gained by its use?

I believe if we answer these questions we have pretty well covered the subject:

Question No. 1 (What is budgetary control?)

(1) Formulating plans.
(2) Cooperation of all departments in preparing budget.
(3) Coordination of all departmental effort to attain objective set up.
(4) Comparison of actual accomplishment with anticipated program.

(5) Report on the result of the comparison and discussion with persons responsible.

Question No. 2 (Why are so many people interested in budgeting?)

(1) Something new.
(2) Successful operation in government.
(3) Natural desire to want to look into the future.
(4) Increasing need for planning due to:
    (a) More competition
    (b) Smaller margin of profit
    (c) Period of declining prices

    In the past many business successes can be attributed to:
    (a) The reverse of the above condition
    (b) The Law of Averages
    (c) The Grace of God
(5) Desire on the part of accountants to want to be business men instead of historians.

Speaking of historians or recorders of facts calls to my mind a story I recently read in the *Wall Street Journal.* A ship captain in preparing his log wrote into the records, "The mate was drunk today." The mate said to the captain, "Is that necessary?" The captain replied: "It is a fact, isn't it?" The mate being an honest man replied that it was, whereupon, the captain said, "Well, it goes then." The mate had a keen sense of humor and seeing that the captain's report would indicate that it was an exception for him to drink, waited for his turn at the log and this is what he wrote in the record: "The captain was sober today." Both statements of facts but both creating the wrong impression.

A statement of fact in figures is not useful unless it can be used in comparison. What better comparison can one have than the comparison of one's actual accomplishments with one's objectives?

Question No. 3 (How would I prepare a budget?)

The budget in business means two things:

(1) Anticipated profit
(2) Anticipated balance sheet

In analyzing the business we are interested in two very vital phases:

(1) How do we stand? (Balance sheet)
(2) How did we get there? (Profit and loss statement)

It seems to me another item should be added, i.e., "Where do we go from here?" (Budget)

In setting up the profit and loss budget we must consider the five important factors which enter into the profit and loss statement:

(1) Sales
(2) Selling cost or commission
(3) Manufacturing cost
(4) Expenses
(5) Net profit

In our business the sales budget was nothing new. I doubt if it is new in any business, even a newsboy estimates how many papers he expects to sell. Seriously now, I think our company was a pioneer in successfully establishing sales quotas. To set these quotas we secure such information as:

(1) Merchant population of each territory (Dun's and Bradstreet's originally, kept up to date from mailing lists).
(2) Growing tendency over the past five years.
(3) Present economic conditions (local and general).
(4) Analysis of type of machines we expect to sell (based on past experience).

In this way the salesmen's quotas are set then; taking into consideration the seasonal variations, we expect each man to secure a stated percentage of his agency quota during the month. In preparing the sales budget we can accumulate these individual quotas and analyze the total by types of machines based on past experience and we have our sales quota.

The selling cost or commission follows the sales and is not, therefore, difficult to estimate.

Manufacturing Cost—With the standard cost system we are in a position to use the predetermined cost of each class of machine which, when accumulated and adjusted to take into consideration any current or anticipated changes, gives us our budgeted cost.

Now we come to our expenses. Our method is to ask each department head to furnish the following information:

(1) Classification of positions.
(2) Rate for each class of position.
(3) Anticipated changes in personnel and rates.
(4) Plans for the future and their estimated cost.

After receiving this information the figures are carefully gone over and extended to monthly periods.

The expenses of each department as shown in the budget are analyzed as to:

(1) Payroll (by positions)
(2) Traveling expense
(3) Supplies
(4) Etc.

Such expenses as advertising, various welfare items, etc., are based on the program outlined and the various contracts entered into.

After having this information we are in a position to arrive at our estimated profit.

And this constitutes our budget:

Question No. 4 (How can I use the budget?)

(1) I can consider the proposed expenses of the various departments before they are incurred and decide whether or not such expenses are justified by the anticipated income.
(2) If the profit does not meet our anticipations I am in a position to analyze the causes and place the blame.
(3) If the profit exceeds our anticipations we have a measuring stick with which to account for the reason and to properly reward those who have brought about this condition. We have always worked on the theory that we are naturally lazy and that whatever we do we do it for one of two reasons:
    (a) Fear of punishment
    (b) Hope of reward.

Question No. 5 (What advantages are to be gained by its use?)

(1) A basis of internal and executive control. Expenses to be controlled must be considered before they are incurred. Future income must be estimated to determine whether expense is justified.

(2) Coordination of sales, production and finance.
(3) Records are used as basis of control instead of as historical information.
(4) Cooperation of all departments.
(5) Reduction of waste.
(6) Planning of finances.
(7) Balancing of equipment and personnel.

There are some limitations to the budget such as:

(1) Cannot be 100% right.
(2) Budgetary plans will not operate themselves.
(3) Budgetary control will not take the place of executives.

No substitute for *Think* has ever been invented.

CHAIRMAN: I think we have proven that applause can be given both at the beginning and at the end of our papers here today. We have had several illustrations, and we just had another. I have been particularly gratified to see the point of view that Mr. Lohnes is taking with the budget problem, and that is getting across to us, a group of accountants, the one big essential fact, that management is after all, really important. You have to give a man a chance to function; you can't tie him up into knots with figures and expect him to work as a normal human will work. I am thoroughly in sympathy, as I am sure Mr. Lohnes is, with budgets, but at the same time he works for a sales organization. Everyone knows the National Cash Register is a sales organization, and if you go into that plant, if you go into the factory, the men are not talking solely production records, they are saying, "Did we make our sales quota? If we didn't make our sales quota, what was the trouble?"

That is a business attitude to get into an establishment that is worth millions of dollars and takes years of effort. I think we can all profit by any questions that we may have in our own minds that Mr. Lohnes may be willing to answer. I am sure he will be willing to work with us.

W. C. KOEHLER, *Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.:* I would like to ask the speaker concerning this budget or estimated profit, how do you subdivide that, by departments or by types of machines?

MR. LOHNES: We don't attempt to divide our estimated profit. We only use the analysis of classes of machines in order to arrive at our cost and our commission.

CHAIRMAN: Are there any other questions? If not, we will proceed with the rest of the program.

We will now hear a story of essentially a part of the budget that probably will be of great interest to some of us as cost accountants. Mr. Kitendaugh who helped organize this session and is largely responsible for some of our speakers, has consented to deliver a paper upon what I think is a very interesting development that he has been personally responsible for in his own plant. They worked out a very remarkable budget, I believe, in their production end for a rather complicated business, and have used more mechanical equipment than any other organization that I have come in contact with.

Mr. Kitendaugh, will you give your paper? You can conduct your own end of the session; I will retire.

Mr. Kitendaugh then read his paper.

THE BUDGET SYSTEM OF THE ONEIDA COMMUNITY, LIMITED

E. F. KITENDAUGH

Oneida Community, Limited

GENTLEMEN: The budget system of the Oneida Community, Limited, today in my opinion is well developed and remarkably accurate although there is still room for improvement. As its inception in a comparatively simple form there were many of the directors, officers and managers who were skeptical of both the Oneida Community, Limited, budget system and budget systems in general, just as some of you may be. Today there is not one who lacks confidence in it. Their faith is based upon its repeatedly having proved itself sound when, apparently from rule of thumb guesses, it was not. Furthermore, many of us have watched it start in the usual simple way and gradually grow, through embodying ideas of various persons, into a highly complicated but exceedingly reliable forecast of the company's business. The responsibility for its accuracy, other than clerical, is

placed upon various departments. More than once the treasurer has pronounced one part of this budget the most valuable statistical document currently furnished.

A budget system is not a cure-all for every business trouble. It comes nearer being a compass that points out the direction in which the business is headed. So a company without a budget is like a greenhorn in the woods without a compass, who wanders around hoping to come out at the desired point, but does not know where he is coming out. Many hunters carry two compasses into the woods because sometimes it seems that the compass must be wrong, and the hunter, unless very experienced or checked by a second compass, will take the direction he thinks is right, and regret it later on. So the Oneida Community, Limited, at times will have two or more budget systems in operation. Perhaps because of its altruism it is more necessary for our officers to know where we are headed than it is for the concern in business for money only.

In order that the doubting Thomases here may not feel that it is much easier to put a budget system into the Oneida Community, Limited, than into their own concern, I will first describe some complications of our company. It has some forty different departments which have complete ledgers of their own with profit and loss reports, etc.; it has a branch factory and sales organization in Canada, and a subsidiary corporation with factory and sales organization in England. In the United States there are many departments, such as Flatware, Hollow-ware, Knife, Factory Service, etc., and all these departments, branches and subsidiaries must be consolidated into a company profit and loss statement and balance sheet.

At the beginning of the fiscal year, budgets for the company, including the branches and subsidiaries, are prepared exactly paralleling in form the official balance sheet and profit and loss statement made at the end of the year. These are also made at the end of each month. These monthly statements are currently compared with both the official budget made at the beginning of each year, and sometimes during the year, as well as with unofficial monthly revised budgets.

To avoid the complications of the many branches, I will confine myself hereafter as a rule to just one, viz., the department that makes Community flatware. Flatware is the technical name

for knives, forks and spoons, the tools used in conveying food in distinguishing the same from hollow-ware, the utensils that hold food, such as sugar bowls, cream pitchers, etc. The flatware department makes four distinct lines of silver-plated ware—Community, Tudor, Par and General. Each line has six or seven active patterns besides several dead or dying ones. In each pattern we are manufacturing perhaps a hundred different pieces.

In addition to a large number of articles manufactured, our business is seasonal. The product is also a semi-luxury; consequently, the sales more quickly reflect a business depression or boom than businesses dealing in staples.

Perhaps the factor which most interferes with economical inventories and the adjustment of the business to sales is the fact that the company is very altruistic and does not hire and fire employees to suit the sales fluctuations. If an employee has worked for the company for a year or more, it takes a stronger reason than that his services are not needed to discharge him. Furthermore, the department itself cannot do so. All it can do is to ask the personnel department to have him transferred. If the personnel department cannot make a shift to a department which needs his services, the first department is obliged to retain him and use him to its best advantage. I have seen the time at the end of the year when inventories were too large and the management deliberately planned the inventory for the coming year to be still larger, merely to keep its regular employees busy. Have I not given enough of our troubles to show you that budgeting here is just about as hard as it will be at your place?

I am now going to follow chronologically the various steps taken in budgeting, dealing primarily with this flatware department until necessary to bring it into the company budget.

You will note here Chart A (p. 300), which is an enlargement of a small chart made for each account in the company's ledger. This is not a chart which I would recommend for executives or accountants, or even for continuous use by our company. It has served its purpose well. It was originally prepared because the class of people who control the accounts were not familiar with profit and loss statements, ledgers, etc., and something had to be done to get their interest. These charts have aroused their interest and are quickly understood by them.

You will note the auditor's and assistant auditor's name for

CHART-A

Sheet No. 46

STUNT AUG. 24, 1926 AUDITORS F.L. Ernenwein

DEPT. 29 U.S. SILVERWARE C.E. Dickson

GROUP FACT. OVHD. DIRECT

1923	11,127.01		4,041.80	15,168.81	
1924	9,393.12		1,355.28	10,748.40	
1925	10,287.00		3,768.16	14,055.16	

ACCT. 545 Handling Scrap.

	WAGES	DISB. OR REC.	TRANS.	TOTAL	
FEB.	302.		1052	406.	
	604		2104	813.	762.25
	906		3156	1219.	924.58
					839.09
MAR.	1208.		4208	1625.	
	1510.		526.	2031.	1182.91
	1813.		6313	2438.	1404.67
					993.70
APL.	2115.		736.5	2844.	
	2417		8417	3250.	
	2719.		9469	3656.	
MAY	3021.		1052.	4063.	
	3323.		1157	4469.	
	3625.		1263.	4875.	
JUNE	3927.		1368.	5281.	
	4429.		1473.	5688.	
	4531.		1578	6094.	
JULY	4833.		1683.	6500.	
	5135.		1788.	6906.	
	5438.		1894.	7313.	
AUG.	5740.		1999.	7719.	
	6042.		2104.	8125.	
	6344.		2209.	8531.	
SEPT.	6646.		2315.	8938.	
	6948.		2420.	9344.	
	7250.		2525.	9750.	
OCT.	7552.		2630.	10156.	
	7854.		2735.	10563.	
	8156.		2841.	10968.	
NOV.	8458.		2946.	11375.	
	8760.		3051.	11781.	
	9063.		3156.	12188.	
DEC.	9365.		3262.	12594.	
	9667.		3367.	13000.	
	9968.		3472.	13406.	
JAN.	10270.		3577.	13813.	
	10573.		3682.	14219.	
	10875.		3788.	14625.	
	11177.		3893.	15031.	
	11479.		3998.	15438.	
	11781.		4103.	15844.	
	12083.		4208.	16250.	
	12385.		4314.	16656.	
	12688.		4419.	17063.	
	12990.		4524.	17469.	
	13292.		4629.	17875.	
	13594.		4734.	18281.	
	13896.		4840.	18688.	
	14198.		4945.	19094.	
	14500.		5050.	19500.	

this account in the upper right-hand corner. There are several groups of employees in the flatware factory who have the control of different accounts—one of stock, one of supplies, another of direct wage, overhead expense, etc. By control, I mean the group auditor's O. K. must be obtained before any goods are ordered, or money spent which will be charged to the account. This flatware department has some seven hundred accounts, each account represented by one of these charts. When the budget is ordered, for instance at the beginning of the fiscal year, these charts are distributed to the various auditors in control of the accounts. This particular chart went to the auditor controlling the handling of scrap, as the name indicates. The auditor has the old chart of the previous year which gives the history of that year, as well as the summary of the three previous years. You will notice in the upper left-hand corner three red figures which show the total cost of handling scrap for the previous three years. Over in the right-hand margin opposite each month you will see three red figures, which represent the comparative amount for the corresponding period of the three years referred to in the upper left-hand corner of the chart. The figures in black in the columns are printed upon these charts, and represent the scale in dollars for the particular column. Consequently, each month, instead of having to watch the number of dollars, the colored lines posted monthly are the barometers showing whether the expenditure has equaled the budgeted amount for the month, or overrun or underrun the same. While this chart tells the story at a glance, I feel it is very much like the abacus used by Chinamen in a laundry or children in a kindergarten.

One point illustrated on this chart, and one I do not want to take time to enlarge upon, is the cash control budget system. You will note the first column is headed "Wages"; the second, "Disbursements or Receipts," and the third "Transfers." The first column represents cash paid out through payrolls. The second column shows items paid for in cash, as when a department buys silver or nickel silver from sources outside of the company. The first two columns only represent cash transactions so far as the company is concerned. The third column is used for interdepartmental buying as when the flatware department buys knife blanks from the knife department. In that case a ledger transfer slip or voucher is put through, crediting the account in one department

and debiting that in the other. Consequently, there is no cash expended. The first two columns only are of importance as regards the company's cash position, whereas the third column is very important when it comes to a department's profit or loss situation. As probably most of you will not have a parallel situation where there is such a necessity of running the cash budget entirely separate from the profit and loss budget, I will here dismiss the cash budget.

Prior to the distribution of the charts to the various departments, the sales department, especially at the beginning of the fiscal year, has probably had a week's session of the agents, discussing sales problems, etc. Then the different groups, representing the retail trade, jobbing trade, catalog houses, etc., are asked to budget the sales that they will make, and they must predetermine down to lines, not to pieces, the dollars of sales that will be made. Some of our departments budget in dollars, and others in gross, but the units are convertible. After each one of the sales groups has prepared its budget, the same is passed to the executive higher up, and eventually all the sales budgets come to the director of sales, who is working very closely with the general manager and president. I suppose that each sales group is held very closely to its sales budget.

On the other hand, you must not use a sales budget prepared by the usual successful sales organization as the proper budget for manufacturing or financial purposes. Mr. Baum of Hickey-Freeman Company has previously spoken of this. You will find that the most dangerous thing to do for this reason: Good salesmen and sales executives are extremely optimistic as a rule. You must have but little optimism in manufacturing inventories or in the financial department. Optimists are very much like kites—very necessary to fly and pull things up, but like the old-fashioned kite, need tails to keep them steady and free from nose dives. Consequently, the optimistic sales department and executives need a conservative treasury department and accountants to keep them from making nose dives. Therefore, the sales budgeted by the sales department should be studied and cut down to make them conservative before being used by the factory and financial department.

After the sales budget has been completed, the factory management is told the grossage by lines represented by the dollars of sales of the sales department's budget. The factory makes the

necessary adjustments for the inventories on hand and the ones desired at the end of the year. You understand that this last year's inventory is built up so as to provide the necessary work for the regular employees, even though for other reasons the inventory may be undesirable. The company management instructs the department as to the inventory at the end of the year.

Budgeting Factory Cost. In the beginning the factory management converted the grossage of the four lines (Community, Tudor, Par and General) into "Par Equivalent" by application of factors. For instance, if there was twice the labor on Community Plate as on Par, its grossage was multiplied by two, etc. Thus was obtained the par grossage to pass through each room. (Today these data are more scientifically and accurately applied through man-hours.) For each room the grossage by lines required to keep a man busy was known; then, multiplying the number of men in the room by the average earnings, gave the direct wage.

Likewise, this grossage was used in connection with average ounces of silver per gross, average pounds of nickel silver per gross, etc., to obtain quantities of stock to be purchased. Then the purchasing department used their long-time contracts and knowledge of market conditions to predict cost per unit of this raw stock; thereby furnishing means for determining dollars of raw stock needed.

This method of roughly forecasting cost of direct wage and stock still continues not because of its accuracy but because of its keeping the responsibility more directly in the hands of the factory management.

This overhead is also estimated account by account as shown by the charts. Take, for instance, the account "Foremanship": The superintendent will know the number of foremen that he is to have in each room and their wage rates, but each foreman works with the superintendent to tell him how many truckmen he is going to require to put the grossage through, and together they make up the budget for truckmen. So you have here one budget system which is a rule-of-thumb budget system run by the practical factory men.

Next comes the statistical department's budget, a more accurate and scientific one, which later on is used by the two departments

U. S. SILVERWARE – FACTORY COST FORECAST CHART-2

COMMODITY	GROSS	NICKEL SILVER	PURE SILVER	BLANKS & STUBS	MISC STOCK	LABOR	OVERHEAD	FACTORY COST	FACTORY COST	SALES
7	890	5490	9920		9610	19810	27680	72520	72520	108780
8	230	1250	2280		2370	4820	6760	17480	17480	26230
9	420	2730	3310		8240	6510	10310	31100	31100	46650
13	380	1130	1870	13850	3180	7900	12160	40030	40030	60140
14	310	770	1210	12920	2370	4760	7140	29170	29170	43750
15	540	930	2170	14740	4000	6810	10590	39250	39250	58880
TOTAL	2,770	12,300	20,760	41,510	29,770	50,610	74,640	229,620	229,620	344,430

getting together and comparing notes and seeing which is right and which is wrong. I think most of you, through the courtesy of the Burroughs Company, have an actual reproduction of a sheet partially reproduced on Chart 2, "Factory Cost Forecast" (p. 304), It is one of a great many similar sheets which go through a system to give us the totals of the columns.

I might say that our company goes into far greater detail than any other company I know of, to eliminate rule-of-thumb methods and get absolute accuracy. Remember that we are dealing with thousands of articles. This system is used at the beginning of the year for costing inventories; it is also used at the end of each month for costing sales so as to build up a book inventory, and as now for costing budgets. If you wish to get office work done in large volume accurately and cheaply, you must adopt factory methods and replace labor with the latest and best machinery. In this case a special Burroughs Moon-Hopkins supplemented by an Error-No copyholder cuts both cost and time of clerical work in two.

You will note the columns headed Nickel Silver, Silver, etc., and the one for code numbers for spoons, forks, etc., and the grossage of each. Formerly the grossage of each piece was multiplied by the cost per unit of each element on an electrically driven calculating machine and posted by hand. Today there stands behind the Moon-Hopkins in an Error-No copyholder a sheet corresponding to the chart but showing standard cost per unit of each element. While the line-finder keeps the eye on the right article and cost per unit, the clerk merely has to punch the grossage once on the Moon-Hopkins, then punch the standard cost per unit of each element, and the machine posts the products as shown on the chart. Then it crossfoots for the factory cost. To prove the same, the clerk punches the factory cost per unit, which is multiplied by grossage, and posts factory cost in the second factory cost column. Obviously, if it agrees with factory cost of first column, no one of the cost elements was erroneously punched. As the machine foots grossage column to be compared with previously determined total, there should be no error there.

You will not that the statistical department's budget takes each of some 3,000 different pieces sold by the sales department, and actually multiplies the grossage of each by the principal cost elements, as well as the sales price, which means that there are some 27,000 to 30,000 multiplications made for the tableware department

alone, whereas the factory deals more in the total gross of each of the four lines and uses the average price per gross for the line, or converts the line into a common unit by the aforementioned par equivalent. Of course, the factory ascertains the cost of each line by building up costs of twenty sub-departments or rooms.

The method of the accounting department here and in other places is frequently criticized, largely because it is readily seen how the factory method can be done cheaply, whereas the accounting department's method of getting down to details and doing a vast amount of work is presumed to be extremely costly. It is true that it would be costly if done by people unfamiliar with the latest developments in accounting machinery, and not realizing the greatly increased accuracy of the results obtained which would more than compensate for quite an increase in cost over the rule-of-thumb methods more commonly used. I believe the accuracy of our budget is what makes it worth while.

The total costs so obtained are adjusted to reflect costs for the coming year and then compared with the factory management's predictions. Then differences are reconciled. Frequently the factory budget shows lower costs through a proposed change in machinery, modification of operations, etc., after being checked by the statistical department.

Of course, our budgeted sales could have been costed directly from these sheets without having the other budget, but it is better that the initiative and responsibility be left with the factory. This checking has greatly decreased the safety margin or "gravy" that was formerly too freely used in setting up budgets.

After all this detail is done these charts are gathered together and the budget is made up. In other words, you have all the budgeted accounts, just as you have at the end of the year when you close your ledgers. Consequently, you make up your profit and loss and balance sheet from these at the beginning of the year instead of at the end of the year.

Budget Control in the Factory. Let's see where this budget is doing any good, where it is cutting down the cost. The payroll is made up in our factory by tabulating machines. Thousands of cards each week pour through, and before the payroll itself is made up, it is analyzed. The analysis of the payroll gives the

PAY ROLL ANALYSIS

CHART-3

DIRECT WAGE

WEEK ENDING FEB. 5, 1927

PLANT

DEPT. NO.	EMPLOYEES MEN	EMPLOYEES WOMEN	HOURS DIRECT	HOURS OV'HD	DIRECT WAGE ANALYSIS ACTUAL	STAND.	NON-STAND.	NON-STANDARD ANALYSIS 1 HOLES	2 DIE MARKS	3 BURRS	4 BAD STOCK	5 RETURNS
1	31	—	892.6	242.9	707.59	695.67	.11.92	—	2.78	6.38	—	—
2	31	—	1193.6	5.5	927.35	891.67	35.68	6.20	—	—	6.58	—
3	39	—	1316.3	182.1	1103.96	896.10	207.86	63.03	6.15	—	101.57	3.45
4	104	—	3780.8	359.6	2821.03	2604.22	216.81	—	.07	55.91	—	77.51
5	8	27	756.4	593.2	370.84	249.61	121.23	—	—	—	—	90.20
TOTAL	741	231	25033.4	14130.9	16845.94	15762.21	1083.73	198.88	9.25	63.10	108.15	202.15

CHART - 3-A

YEAR 1927

DIRECT WAGE
DEPT. 1

DIRECT WAGE ANALYSIS					NON-STANDARD ANALYSIS				
			NON-STANDARD		1	2	3	4	5
WEEK END	ACTUAL	STANDARD	$	%	HOLES	DIE MARKS	BURRS	BAD STOCK	RETURNS
1926 AVER.	685.90	675.03	10.87	1.61	.06	.21	6.59	—	1.62
1927 BUDGET	725.00	714.20	10.80	1.50	—	—	5.00	—	1.00
2/5	707.59	695.67	11.92	1.71	—	2.78	6.38	—	—
2/12	781.12	769.55	11.57	1.50	—	6.97	3.50	—	.47
2/19	841.80	813.20	28.60	3.52	—	—	18.62	—	—
2/26	704.01	687.07	16.93	2.46	—	.39	5.03	—	—

CHART-4

OVERHEAD WAGE ANALYSIS

WEEK ENDING FEB. 5, 1927

PLANT

DEPT. NO.	701	702	703	764	765	766	TOTAL	1927 BUDGET	1926 WK'LY AVG
1	46.00	30.89	53.62	—	1.60	35.00	204.30	153	170
2	—	—	—	—	1.02	—	41.39	58	64
3	43.00	32.00	22.36	—	80.75	—	198.13	275	305
4	100.88	30.73	3.32	—	51.46	23.17	385.04	456	504
5	49.00	20.93	85.38	—	25.86	29.20	280.14	234	260
TOTAL	1,407.06	570.01	1216.83	—	289.57	635.43	3,887.62	2857	10,919

charges to the various ledger accounts. It is also analyzed in this particular case to show the direct wage broken down into what is standard and what is non-standard. You won't need to pay much attention to chart No. 3 (p. 307). This represents a working sheet. I merely show it for the tie-up between the actual payroll cards, and the next chart which the department itself uses. If you will look at Department 1 on Chart 3, the week of February 5, you will see the same figure repeated on the next chart, No. 3-A. You will note both the actual wage and the standard wage. Chart 3-A illustrates five different non-standard amounts in excess of the regular wage. There are actually over twenty non-standard items shown on our sheets.

The statistical man has circled in red a certain item that is altogether too far from standard. These statistics are put up on very large blackboards hung from the ceiling of a large room. Each week the superintendent, foremen and others are gathered into this room, and they see how near they are coming to the budgets which they have already set for themselves, and also see the causes for variation from the same.

By the way, the standard wage and the non-standard wage are both budgeted, and the budgets are shown on each foreman's sheet.

After the direct wage comparison is made between actual direct wage and the standard direct wage, and the non-standard broken down to twenty different causes, the rest of the payroll, consisting of overhead wage, is analyzed and compared with the budget. Chart 4 (p. 309), is a working sheet, as was also Chart 3, to show the method of obtaining the data from the Hollerith time cards. The account numbers run from 701 to 799, and only a few are shown on the chart. The budget and weekly average shown on this chart are used only by the statistical department. These data are transferred weekly to comparison Chart 4-A (p. 311), where the foreman of Department 1 watches his overhead wage both for the week and the accumulative total for the year versus the budget, as well as the subdivision of the same to the various account numbers 701, 702, 703, etc. He, of course, is on his toes to beat the budgeted amount if possible.

Chart 5 (p. 312) is another weekly chart showing the supplies used for the week and accumulated for the year in comparison with the budgeted amount.

CHART-4-A

OVERHEAD WAGE
DEPT. 1

YEAR 1927

COMPARISON ACTUAL AND BUDGET				ANALYSIS OF OVERHEAD WAGE BY ACC'TS					
WEEK END	ACTUAL OVERHEAD WAGE	ACCUM. ACTUAL	ACCUM. BUDGET	701	702	703	764	765	766
1926 AVER.	170.82	——	——	48.39	29.22	23.77	——	.77	35.70
1927 BUDGET	180.00	——	——	46.00	30.00	40.00	——	——	35.00
2/5	204.30	204.30	180.00	46.00	30.89	53.62	——	1.60	35.00
2/12	202.01	406.31	360.00	46.00	27.40	44.90	——	3.00	35.00
2/19	176.00	582.31	540.00	46.00	27.54	48.15	——	1.23	35.00
2/26	194.28	776.59	720.00	46.00	27.14	46.85	——	.65	35.00

CHART-5

SUPPLY USAGE

WEEK ENDING APR. 30, 1927

	ACTUAL USAGE		STANDARD USAGE		NON-STANDARD USAGE	
DEPT.	WEEKLY	ACCUM.	WEEKLY	ACCUM.	WEEKLY	ACCUM.
1+2	215.66	4314.96	359.21	4770.82	− 143.55	−455.86
4	15.91	365.49	29.43	379.22	− 13.52	− 13.73
5	19.30	279.88	22.44	260.14	− 3.14	+ 19.74
TOTAL	32,93.23	46,662.63	3391.86	46299.78	− 98.63	+ 362.85

You will note that direct wage, overhead wage and supplies, which are the principal items under factory control and a large majority of the factory accounts, are here checked weekly against the budget. The remainder of the factory accounts, as well as the other accounts for the department, are only checked monthly by means of the first chart shown, which compares monthly the actual amount with the budgeted amount. Of course, all the items checked weekly are also shown in the same series of charts and receive a monthly check also.

At the end of each month there are three budget systems, in addition to the cash budget, which are in operation. That may seem very peculiar to you; in fact, I don't know of anybody else that is doing that. A profit and loss statement, or balance sheet, is nothing but a matter of opinion anyway. You can have several opinions about what the profit and loss is going to be, or you can have several different ways of looking at the same thing.

First, at the end of the month we have the orthodox profit and loss for as many months of the current fiscal year as have passed. That profit and loss is projected for the remainder of the year in a parallel column so that the company is told, "If you proceed at the same rate you are now going, without making any change, your profit and loss is going to be so and so." That is immediately compared with the official budget made at the beginning of the year.

Then there is a third parallel column. Each department is scrutinized by the accounting department which knows whether an overhead ratio is going up or down. It also knows whether there is a change in piece rates expected, whether there is a change in price of material or stock, and so forth. Consequently, it can rightly say, "Instead of continuing the pace for the remaining several months of the year, you are going to have certain changes in the stock, administrative, supplies and so forth. We foresee these changes are going to take place, or have taken place but have not been reflected." Consequently, modifications are made to show these changes in the third column, which is the opinion of the accounting department, as to what the profit and loss is going to be at the end of the year. If these three columns are near enough together to be satisfactory to the management, everything is very well. The greater the divergence between those three columns, the greater is the uneasiness of the management. When they get too

far apart, a new budget is ordered. This sometimes happens once or twice a year. Sometimes the first budget of the year is not satisfactory to the management; the profits may be too low. A new budget is immediately ordered, which means the sales department must scramble harder to see if they can't get more sales or better prices. The various departments causing expenses are supposed to sharpen their pencils and cut down the expenses, and they do it until the point is reached where the management is satisfied with the estimated profit.

Is there anything I can make plain to you that I haven't touched upon?

CHAIRMAN: Are there any questions you would like to ask Mr. Kitendaugh?

J. A. BORDEN, *Minnesota Mining & Manufacturing Co., St. Paul, Minn.:* I wonder if the speaker could tell me how his budget assists in actually saving any money in the matter of direct or indirect labor in the different departments.

MR. KITENDAUGH: Do you mean how it saves money on the direct and indirect labor?

MR. BORDEN: Yes, in the various departments.

MR. KITENDAUGH: I showed you on the direct labor chart how the direct labor was divided weekly through the analysis of the payroll into what was standard direct labor and what was non-standard. Of course, in the budget there is a certain allowance made for non-standard which showed up on the red figures each week. Anything in excess of that is in excess of the budgeted direct wage. The minute a department goes beyond the budgeted amount the reason is asked or they ask themselves the reason. Consequently, they have before them all the time the bull's-eye they are aiming it. Any divergence from it is going to cause them to strive harder and harder to get back to it. There is the same progress made in reducing expenses on overhead wage and supplies as there is on direct wage.

The flatware factory superintendent told me just before leaving for Chicago that this budget system had just cut his cost on supplies so far this year 13½% below the budgeted amount.

CHAIRMAN: Are there any other questions? If not, we will proceed then with the last paper scheduled for the afternoon. I

know that we have all profited by Mr. Kitendaugh's description of the work which they have been doing in Oneida. I know from my own personal observation it has been a wonderfully profitable venture for the Oneida Community, and I hope that some of us can get the opportunity at some time or other of actually going up and visualizing this vast amount of detail as it is put through the machines and the immense saving made in clerical labor and the wonderful speeding up in time of getting information across to the working force.

Our last paper of the afternoon has been scheduled to bring forth local Chicago talent. We had some this morning which was excellent. We are going to close our session with some more good Chicago talent, one of the men who worked so hard for local publicity for this convention which we have all noticed in the papers from day to day. It gives me great pleasure in being able to introduce Chicago's own product, Mr. W. F. Woodbury, the Comptroller of the Wahl Company.

FORECASTS AND BUDGETS OF THE WAHL COMPANY

W. F. Woodbury
The Wahl Company

MANY people imagine budgets to be a product of ultra modern thought, but such is by no means the case, budgets of one sort or another (perhaps not known by that name) have been in vogue as far as history extends.

However, the modern business budget has conferred large benefits on industry in general and especially the management section of business.

We hear so much about management's place in industry these days. Quite frequently we read of the enormous incomes which are made by our chief executives. While I will not be so foolish as to state that this has been brought about by the budget, we do know that management's income is based on the success of efforts and proper budgeting cannot help but bring greater success to whatever company or individual adopts it. If the budget is properly installed and effectively applied, not only will it reduce the cost of operations and make for greater profits but we will have a definite yardstick to measure our efforts against.

So much has been said on budgets in a general way and so much can be said about any specific budget plan of any company which is operating one that I will spend very little time on the general side but must touch on it slightly.

THE BUDGET PLAN. For instance, we all know that before a budget can be installed and operated successfully there must be a definite plan outlined. We must decide what we are going to budget; whether we are going to start off in a small way and budget one section of our operations first and gradually cover the whole; or, whether we will outline a complete plan and endeavor to start it all off at the same time. On account of the usual unforeseen difficulties it would seem very much better to take the former course.

In our own particular case we started in with an appropriation plan for plant additions. Formerly, there was no definite control as to the spending of money. Of course, this was more or less haphazardly taken care of through one or two of the executives having to sign the vouchers but there was nothing definite as to limits. So, we started in with an appropriation limit for plant additions which gradually worked into a complete budget and forecast plan which I will handle more in detail later.

In working out our budget plan we must decide not only how extensive our budget program will be but the period for which it shall cover; the amount we can afford to spend for the operation of it; what nature of reports we shall use; who shall be in control, and how rigidly shall the budget be enforced.

We can, therefore, divide our budget plan briefly into four sections:

(1) The plan must be right, arranged along scientific lines to cover all operations of the business, and must be flexible.

(2) The program must be sold to the organization and not only sold to the major executives but also to the department heads and the men down the line, as, notwithstanding all that has been said about good management and bad management, not all the profits are to be credited to management nor all the losses charged to their door.

(3) There must be a proper organization for budget control and administration. This may be in the form of a committee; under a special budget officer; or under the accounting officer, but to

be successful it must be finally controlled by the president or manager of the company himself.

(4) To be successful the budget must be properly enforced and it is, undoubtedly, from the proper enforcement of the budget, the full benefit is derived. When I say "enforced" I do not mean to say that if a division head goes over his budget he should necessarily be gone after with a big club, but the reasons for his overrun should be analyzed and explained and it should be made difficult to go over the budget, but we must remember that in the final analysis we are handling human beings and that a human being is prone to error, is prone to let things slide and be careless. Another thing to remember is that there may be an error in compiling the budget. I do not mean, of course, that any of the accounting officers who are here today in charge of the budgets will have any errors in their set-up but some of these other fellows on the outside might.

It is quite easy to make the budget too tight or too loose. There are all kinds of angles to be taken into consideration but if the budget plan is properly laid out these difficulties will iron themselves out. Do not forget, however, that the budget plan is never perfect but as the years go by it becomes better and easier to manipulate. The unforeseen and the unexpected is less liable to come along and upset your plans. Again, do not forget that the budget is not a cure for all ills, it is simply a guide, it is simply a plan, it is simply a bell-wether which warns us when we are on dangerous ground.

Now to get down to some specific details as to the budgets and forecasts of The Wahl Company. The first step and the basis upon which all budgets must be made is the sales forecast. This forecasting has its difficulties. There are many hard nuts to be cracked. For instance, before making the forecast we must even go back of that and decide upon what the forecast should be based. This will naturally vary with organizations and industries; being very simple for the industry which is producing one or two staple articles and extremely difficult in the case of an organization which is producing a long line with a multitude of symbols.

Market Analysis. One of the first things to do is to make an analysis of the market. This market analysis not only applies to the large corporation which is doing an extensive national and

perhaps international business, but to the local concerns also. Naturally, the larger the company and the more extensive the operations the more benefit proportionately will be obtained.

It seems so very foolish to blunder along or to enter a market with any product without first of all gauging its possibilities. In fact, no progressive company or up-to-date executive should ever think of spending his money and forces without first of all finding out what he is doing it for and where he is going to end. Before putting out a new article we endeavor to make some kind of an analysis as to the potentials for that article. There is a great deal of difficulty, of course, attached to this if the item is entirely new but if it is an improvement of like articles which are already being marketed by the company which is doing the analyzing, or other concerns, the market possibilities are very much simpler to gauge.

Up to a couple of years ago the bulk of the sales of The Wahl Company were composed of the Eversharp pencil but latterly there have been quite a few additions made not only to the line of pencils but introduction of different articles. A few years ago our fountain pen business was only a small part of our sales. It has now assumed a fairly large proportion of the total sales. In addition to this there is a complete line of fountain pen desk sets, the volume of which is growing rapidly. Furthermore, we have during the past two years added a complete line of small manicure compacts for use in the ladies handbag. We are extensive manufacturers of hard and soft rubber parts and our latest addition, which incidentally is growing very rapidly, is an automobile shock absorber or spring brake which is being adopted as standard equipment by some of the large automobile manufacturers.

The Sales Forecast. You may think the forecasting and budgeting for the pen and pencil line is a very simple one but such is not the case, there being several hundred different styles of pens and pencils, and when we consider the number of pen points which are used there are several thousand combinations that can be made up. When we consider all of the various parts which go into the manufacture of these pens, pencils, and desk sets, manicure compacts, etc., you can well imagine that the number of these parts handled in the shop is enormous.

I want also to point out that products of this nature vary very largely according to the styles and desires of a fanciful public. Colors, as you know, have during the past few years had a very

great bearing not only on the manufacture of ladies' wear but also on the products of the automobile manufacturers, pen and pencil manufacturers and others of a like nature. So while standardization is all very well in some industries and works out well in many cases where there can be an interchangeability of parts, there has been no semblance of standardization as far as color schemes are concerned, and furthermore I do not think it would be possible to attempt any standardization along these lines for, as you know, everyone has a particular idea as to the particular color he desires. Furthermore, what an impossible world this would be to live in if we were denied the music of colors.

FORECAST PERIOD. Sales forecasts vary with different companies, some concerns forecast for one month, others for a year, and some go even several years ahead.

In our particular case we forecast in a general way yearly, this forecast being augmented by more specific details covering production periods. I mean by that the length of time to get different lines or numbers through the shop, these specific figures being revised monthly by classes of product.

If a sales budget or forecast is going to be used as the basis for manufacturing authorizations, this forecast must be prepared carefully and should be detailed to take in all classes and styles of product, basing this on past experience, plus increased potentials in the nature of additions to the line, new markets which may be opened up, and extension of existing markets.

MARKET FACTORS. In making up the sales forecast we must first of all obtain the factors which affect the sales of different classes of merchandise in different territories. There are local factors to be considered in addition to perhaps general prejudice which has to be broken down and such things as floods and crop failures which will retard sales for a short period of time. Again, the competition in a certain locality may be so strong that it is impossible for a company to get their share. These things and others have to be considered.

I will not go into very great detail as to our method of setting quotas except to say that we have a very carefully planned quota system. Most of our United States business is handled through dealers; also we have a certain number of jobber outlets and large industrial users in addition to which we have a factory in Canada;

branches in New York and San Francisco and an affiliated company in London, England; and 80 to 100 established agents in other parts of the world.

In making up our sales forecast we consider several factors such as the potential value of each county of the entire United States. This potential value of each county is arrived at through a combination of analysis of the literate population over ten years of age; number of income tax returns; purchasing power, which is based on the total wealth created annually in each county; the number of retail outlets in each county; Curtis circulation, and incidentally the Curtis people have what they consider the most perfect market analysis through their circulation statistics. In addition to this we have figures of our own sales for the past four years broken down into different classes of merchandise. In addition to these county potentials we have salesmen's estimate books, dealers' inventory records and displays to guide us. It sounds a little involved I know but nevertheless it costs very little to handle.

You might say, "Why waste all that time getting those factors together? Why worry about all these figures you get from different sources? That must be a lot of trouble and waste of time. Why not set your quotas on your own experience, your own figures?" Such a manner of setting quotas would be very unfair and altogether wrong. You might set quotas on your own experience in a territory where you have a good man who did an excellent job last year. The management decides there must be a 10% increase in sales. This man who did such a wonderful job last year will be increased 10% and it may be a physical impossibility for him to make that 10% additional.

Making Salesmen Think. In another territory there might be a man who did only a 50% or 75% job. You give him a 10% increase and still you are unfair. You know what you are getting but you don't know what you should get by simply basing the quota on your own experience. Another question you might ask is, "Why do you send this estimate book to the salesman, why not just tell him what he is expected to do?" The reason is we want salesmen themselves to have some part in telling us what they are going to sell next year. It makes them think; it makes them get right down and look over their list of customers. In looking over the list of customers the salesman sees what he did for that cus-

tomer last year and probably the condition of the customer's present stocks and finances.

When these estimates have been made up for each county, state and territory, they are all brought together and summarized into one grand total for the United States to which is added similar estimates for Canada, England, and other parts of the world. This estimating is made up by classes of merchandise and after the estimates are received from the various sales sections they are summarized in the statistical department which is under the supervision of the comptroller.

A comparison is then made against the total sales for prior periods and the general expectancy.

Against these sales estimates are then set down the costs and expense estimates. Now the prime cost is not so extremely difficult as we have a standard cost system worked out not only by symbols but by list price class as well as material class so this becomes almost automatic.

EXPENSE BUDGETS. The budgeting, however, of the expenses is somewhat more difficult and is not set arbitrarily—by that I mean the supervisors of the various departments are considered. In other words, we make up a budget form detailing the actual amount spent for each department for the previous period segregated by classes of expense and these classes of expense summarized into sections for each department, namely: wages and salaries, losses, errors and defects, supplies, repairs and maintenance, fixed charges, etc.

These sheets with the experience of the previous period detailed are then passed to the general division heads such as the various sales managers, factory manager, office manager, etc., together with the estimate of sales and they in turn analyze their departments carefully and state in a column provided for the purpose the amount they estimate will be necessary for the operation of their departments for the coming period.

Our factory is divided similarly to most modern plants, namely: various main manufacturing departments for the different products backed up by auxiliary manufacturing departments, such as the tool room, screw machine, punch press, buffing, plating departments, etc., and further augmented by manufacturing service de-

partments such as production, stores, receiving, factory accounting, etc.

The sales sections are divided into domestic selling, specialty, spring brake, branches, etc.; while the general office has its divisions such as general accounting, accounts receivable, statistical, disbursements, mailing and filing, etc.

Overhead expense estimates for these departments are not extremely difficult with the aid of the statistics which have been compiled over the past five or six years.

Other sections and very important ones are the direct selling expense and the advertising. These comprise a very large percentage of the total costs and have to be watched with extreme care.

As an example take advertising. Enormous sums are spent yearly by concerns all over the country and, at the time of planning the advertising campaign attention must be paid as to not only what will be covered in the advertising but also the field which will be covered and the potential market in which the product is advertised. It is quite foolish to spend enormous sums for advertising a particular article in a limited market. The class of advertising and the market in which the advertising is done must be considered very carefully before the particular item is featured.

In planning the advertising, special care must be taken to see that there is synchronization between the national and local advertising, dealers' displays and merchandise available to fill the orders which are expected as the outgrowth of the advertising, otherwise, full benefit is not obtained from the enormous sums which are spent for advertising.

Budget Should Cover Entire Operations. To be fully effective the budget plan should cover all angles of the business. Wonderful results in cost cutting and economies have been accomplished in the manufacturing end, results which a few years ago would have been considered impossible, but ofttimes in making these shop economies the full significance of their effects have not been considered. By this I mean that reductions in the manufacturing cost of an article through what are apparently minor changes, will very often increase the sales resistance to such an extent that the cost of distribution is increased far more than the savings in the cost of manufacturing. Cost accountants up to this

time generally have not tackled the cost problem in its entirety. It is a big problem but remember that it covers more than the manufacturing and a greater proportionate result will probably be obtained in the future by more concentration on effecting economies in the distribution costs, which are mounting yearly and in many instances are already way out of proportion.

Summarizing the Budget. When all the various expense estimates have been completed, they are sent in to the comptroller's department where they are summarized and the complete estimated profit and loss and full proposed budget made up for submission to the president and the budget committee, the latter being composed of the president, vice-president in charge of sales, treasurer, comptroller and factory manager. If the final figure as shown is not up to expectancy, the sales manager is requested to go over all angles of his estimate and the various department heads to go over their expense estimates.

These budgets are made up prior to the end of the fiscal period and cover the ensuing twelve months and are the expense sections revised only if there is a radical change in the sales, either an increase or decrease.

When the final budgets have been approved they are released for operation.

Budget Enforcement. We now come to the important part of the budget, namely, the enforcement. To draw up some wonderful forms and to compile an expected sales estimate and to measure against this the anticipated expenses is only one step. We must see that we have a proper plan for comparison of the actual results against the anticipated and the enforcement of the budget as laid down, which in itself is only a goal set for us to aim at.

In fact, if the budget is operated fully and carefully it can become one of the chief, if not the chief, controlling factors for management.

There are many other things and reports to be considered in outlining the full plan for control, and after the figures and statistics have been compiled there is then left the matter of the human contact. I do not mean by this the actual close relationship of the general manager with the worker, but the contact of all sections of management with the operators plus the ability of manage-

ment itself to enforce what is necessary for the successful operation of the company.

Those who are in the accounting field, if they do not take themselves too seriously but at the same time if they are wide-awake and on the job, will see that management is furnished with enough information of the right sort and at the right time to enable management to handle its part successfully.

Our particular budget controls are part of our general accounting system. By this I do not mean that we post the budgets in our general books, as that is unnecessary, but we have a complete series of statistics and reports comparing the actual operations as against the expectancy in as much detail as is necessary.

With such an extensive line and such a complete and extensive distribution you may imagine that the follow up of our salesmen is very rigid. In fact, we go so far as to plan the routes of our men and we have a series of reports which tell us what the man has done daily, showing his sales by commodities and classes, the number of calls he has made, whom he has called upon and the displays and inventories of our dealers.

The minimum of this work is taken care of by the salesman in the field, the majority of the work being handled by a very small force in the office but with his daily orders the salesman sends in to us what is known as a daily order report and a dealers' display and inventory report.

The display and inventory report is simple and requires very little work on the part of the salesman and gives him a good entrée into the dealer's store.

In the case of the weekly report the salesman simply fills in the number and names of people he has called upon and the remainder of the work is done in the office from the copy of the orders.

These daily reports are summarized on to weekly recaps showing the actual for the week and year to date compared against quotas, and as a part of this report is considered the expenses of the salesman against his budget, so that we have here a simple control of the operations of the salesman both as to his sales and expenses against his quotas and budgets.

Copy of this information is relayed to the sales supervisors as well as the salesmen to keep them on their toes.

In addition to this we have a periodical Gantt chart. One of these blue-prints is sent to each salesman and shows very readily

what his accomplishment is for the year to date by class. The quotas are set so that the salesman who sells the entire line has a much better chance of making his quota or bogey than the man whose sales are uneven, and thereby earning extra commission.

This chart gives the sales management a lot of information quickly. It tells some real stories. For instance, if a particular salesman is low on a particular section and all the other salesmen are going strongly in that section, there is something either wrong with that particular salesman or district but if on the other hand this commodity is low all over the country, there is something liable to be wrong with the commodity.

As to the control of expenses, we have a form which details by class of expense and by division of expense as previously outlined, the actual expenses incurred as against the budget showing overruns and savings. These are furnished as a section of our monthly reports to the management in addition to figures for the different division heads as soon as the period is closed. These expenses are out a few days after the first of the month.

As a further assistance for the management they are summarized by sections, such as Departmental Selling Expense, Direct Selling, Advertising, Administrative, Service and Returned Goods, Manufacturing and Engineering and Development Expenses, both for the month and year to date and compared as against the budget showing overruns or savings and as compared with last year. Also these reports are furnished with percentages of expenses to net sales by classes of expense.

It is the duty of the comptroller to see that these reports are supplied promptly and correctly together with assisting comments to the different division heads, but the actual enforcement of the budget is up to the management which is the only place where this control can be enforced effectively in any organization.

In conclusion, let me say that while the budget will not take care of all business problems the necessity for thinking and planning ahead which is the principal requirement of forecasting and budgeting will enable safeguards to be laid, plans to be made, and will go a long way toward insuring profitable results. Bear in mind, however, that the budget will be successful only to the extent of what it covers, the manner in which it is planned and inaugurated and the way in which it is carried out.

Following Mr. Woodbury's paper the meeting adjourned.

THE WAHL COMPANY

RECAPITULATION OF ALL EXPENSES BY CLASSES

FORM 1219 REV.

	Months Ended				
	This Period	Budget	Over or Under Budget		Same Period Last Year
			Amount	%	
Wages and Salaries					
Losses, Errors and Defects					
Supplies and Office Expense					
Repairs and Maintenance					
Heat Light, and Power					
Fixed Charges					
Miscellaneous Expense					
Direct Selling Expense					
Direct Advertising Expense					
Total Expense					

Figure 1

THE WAHL COMPANY

COMPARISON OF DIRECT SELLING EXPENSES

FORM 1203 — MONTHS ENDED

	THIS PERIOD	BUDGET	OVER OR UNDER BUDGET		SAME PERIOD LAST YEAR
			AMOUNT	%	
890—SALARIES SALESMEN					
891—TRAVELING AND ENTERTAIN. SALESMEN					
892—AUTOMOBILE ALLOWANCES					
893—SALES CONVENTION					
894—SALES PROMOTION					
895—COMMISSION					
896—SAMPLE CASES					
897—GRATIS, PENS, PENCILS, ETC., BY SALESMEN					
TOTAL DIRECT SELLING EXPENSE					

Figure 2

THE WAHL COMPANY

RECAPITULATION OF DEPARTMENT EXPENSES

FORM 1162 REV. MONTH AND MONTHS ENDED

	This Period		Budget	Over or Under Budget		Same Period Last Year
	Amount	% Net Sales		Amount	%	
		Month Ended				
Selling Expense Indirect (Incl. Appor.)						
Selling Expense Direct						
Advertising Expense						
Administrative Expense (Incl. Appor.)						
Service Expense						
Returned Goods Expense						
Total Commercial Expense						
Manufacturing Expense						
Engr. Develope. and Exper. Expense						
Grand Total Expense						
		Months Ended				
Selling Expense Indirect (Incl. Appor.)						
Selling Expense Direct						
Advertising Expense						
Administrative Expense (Incl. Appor.)						
Service Expense						
Returned Goods Expense						
Total Commercial Expense						
Manufacturing Expense						
Engr. Develope and Exper. Expense						
Grand Total Expense						

Figure 3

THE WAHL COMPANY

COMPARISON OF ADMINISTRATIVE DEPARTMENT EXPENSES

FORM 1161 REV. MONTH AND MONTHS ENDED

	THIS PERIOD		BUDGET	OVER OR UNDER BUDGET		SAME PERIOD LAST YEAR
	AMOUNT	% NET SALES		AMOUNT	%	
		MONTH ENDED				
80—GENERAL OFFICE ACCOUNTING						
81—MAIL, FILE, TELEPHONE AND TELG.						
82—TABULATING AND STATISTICAL						
83—DICTAPHONE						
84—PRINTING AND STATIONERY						
98—EXECUTIVE						
99—GENERAL						
TOTAL ADMINISTRATIVE DEPTS.						
TOTAL APPORTIONED						
TOTAL ADMINISTRATIVE EXPENSE						
		MONTHS ENDED				
80—GENERAL OFFICE ACCOUNTING						
81—MAIL, FILE, TELEPHONE AND TELG.						
82—TABULATING AND STATISTICAL						
83—DICTAPHONE						
84—PRINTING AND STATIONERY						
98—EXECUTIVE						
99—GENERAL						
TOTAL ADMINISTRATIVE DEPTS.						
TOTAL APPORTIONED						
TOTAL ADMINISTRATIVE EXPENSE						

Figure 4

THE WAHL COMPANY

ANALYSIS AND COMPARISON OF DEPARTMENTAL EXPENSES

SELLING AND DISTRIBUTION DEPARTMENTS

DEPARTMENT PERIOD

Acct. No.	Account	Actual Amount	Budget	Over or Under Budget	Same Period Last Year
	WAGES AND SALARIES				
800	Managers, Supr. & Clks.				
804	Janitors, Cleaners, etc..				
810	Boxing, Wrap. & Pack.				
	Total Wages and Sal.				
	OFFICE EXP. AND SUP.				
830	Staty. Off. & Gen'l Supp.				
834	Telephone and Tel.....				
835	Meals for Employees...				
836	Gratis, Pens, Pen'ls, etc.				
837	Frt. Exp. P. P. & Ins.				
838	Office Cleaning.....				
	Total Off. Exp. & Sup.				
841	Repairs and Maint.....				
	Total Rep. and Maint.				
850	Heat, Light, Power and Water				
	FIXED CHARGES				
860	Insurance				
862	Taxes				
866	Depreciation				
	Total Fixed Charges				

Acct. No.	Account	Actual Amount	Budget	Over or Under Budget	Same Period Last Year
	MISCELLANEOUS EXP.				
870	Travel and Ent. Genl..				
871	Memberships and Dues				
874	Legal Expense				
875	Policy Allowances				
877	Cred. Agcy. & Coll. Cost				
878	Rent				
886	Suggestion Awards....				
887	Move and Rearrange..				
888	Losses Due to Sales Dept.				
889	Sundries				
	Total Misc. Exp.				
	Total Depart. Exp.				
	DIRECT SALES EXPENSE				
890	Salaries Salesmen				
891	Travel Exp. Salesmen..				
892	Auto. Allowance				
893	Sales Convention.....				
894	Sales Promotion.....				
895	Commission & Bonus...				
896	Sample Cases				
897	Gratis, Pens, etc., Sales				
	Total Direct Sales				
899	Advertising				
	Total				
	APPORTIONED FROM				
81	Mail File Tel. & Tel.....				
82	Tabulating & Statistical				
83	Dictaphone				
84	Printing & Stationery..				
	Total Apportioned				
	GRAND TOTAL				

Figure 5

THE WAHL COMPANY
ANALYSIS AND COMPARISON OF DEPARTMENTAL EXPENSES
MANUFACTURING DEPARTMENTS

DEPARTMENT _____ PERIOD _____

Acct. No.	Account	Actual Amount	Budget	Over or Under Budget	Same Period Last Year
	Wages and Salaries				
500	Foremen, Assts. & Clks.				
501	Timekeep's & Cost Clks.				
502	Prod. Clks. Stor'kp., etc.				
503	Inspection				
504	Cle'nrs, Jan. Mat., etc..				
507	Tool and Die Setting				
510	Box, Wrap and Pack.				
518	Unapplied Prod. Labor				
519	Sundry Labor Inc. Exp.				
	Total Wages and Sal.				
	Losses, Errors & Def.				
520	Defective Workmanship				
521	Overtime Excess & Allcs.				
522	Def. Mtl. not R'd to Sup.				
	Total Losses Er. & Def.				
	Office Exp. and Sup.				
530	Staty. Off. & Gen'l Supp.				
534	Telephone & Telegraph				
535	Meals for Employees				
536	Gratis, Pens, Pen'ls, etc.				
537	Frt. Exp. P. P. and Ins.				
	Total Off. Exp. & Sup.				

Acct. No.	Account	Actual Amount	Budget	Over or Under Budget	Same Period Last Year
	Repairs and Maint. to				
540	Buildings and Grounds.				
541	Machy. Pwr. T'ls., Shop Equip. & Frn. Fix....				
543	Patts Dies Jigs & Tem.				
544	New Loose & Hand T'ls				
	Total Rep. and Maint.				
550	Heat, Light, Power and Water				
	Fixed Charges				
560	Insurance				
562	Taxes				
566	Depreciation				
	Total Fixed Charges				
	Miscellaneous Exp.				
570	Travel and Entertain...				
571	Members'p Dues & Sub.				
573	Consultation Services & Outside Exper. Wk.				
586	Suggestion Award.....				
589	Sundries				
	Total Misc. Expense				
	Total Direct Dep'l Exp.				
	Apportioned Charges				
	GRAND TOTAL				

Figure 6

THE WAHL COMPANY

COMPARISON OF MANUFACTURING DEPARTMENTS AND BURDEN FACTORS

FORM 1166 REV

MONTHS ENDED

	THIS PERIOD	BUDGET	OVER OR UNDER BUDGET		
			AMOUNT	%	
MANUFACTURING DEPTS.					
1—PEN PENCIL AND EVERSMART MFG. DEPT.					
2—PLATING AND BUFFING DEPT.					
3—TOOL, SCREW MACH., PUNCH PRESS DEPTS.					
4—TUBING DEPT.					
5—INSPECTION AND PACKING DEPT.					
6—LEAD, LEAD PACKING AND INK DEPT.					
9—SPRING BRAKE					
15—HARD RUBBER DEPT					
16—SOFT RUBBER DEPT					
20—MAINTENANCE DEPT.					
22—FINISHED STOCK DEPT.					
23—FACTORY ACCOUNTING AND P. R. DEPT.					
24—PURCHASING DEPT.					
35—FACTORY GENERAL DEPT.					
TOTAL APPORTIONED					
TOTAL MANUFACTURING EXPENSE					
21—HEAT, LIGHT AND POWER DEPT.					
39—ENGINEERING AND EXPERIMENTAL DEPT.					
BURDEN FACTORS	This Year	Last Year			
GROSS PRODUCTIVE LABOR					
LESS-DEFECTIVE WORK					
NET PRODUCTIVE LABOR					
BURDEN ABSORBED IN WORK IN PROCESS					
BURDEN UNABSORBED					
TOTAL BURDEN ABSORBED IN OPERATIONS					
BURDEN ABSORBED IN PLANT ADDITIONS					
TOTAL BURDEN					
BURDEN RATE % (ABSORBED IN OPERATIONS)					

Figure 7

THE WAHL COMPANY

SELLING AND ADVERTISING DEPARTMENTS
COMPARISON OF EXPENSES

FORM 1161 REV

MONTHS ENDED

	THIS PERIOD		BUDGET	OVER OR UNDER BUDGET		SAME PERIOD LAST YEAR
	AMOUNT	% NET SALES		AMOUNT	%	
50—SALES DEPARTMENT						
51—BILLING DEPARTMENT						
52—CREDIT DEPARTMENT						
53—SHIPPING DEPARTMENT						
SUB TOTAL						
ZONES EXCLUDING ADVERTISING AND DIRECT SALES EXPENSE						
55—INDUSTRIAL SALES DEPT.						
56—NEW YORK BRANCH						
57—SAN FRANCISCO BRANCH						
58—FOREIGN DEPT.						
69—SPRING BRAKE						
70—MISCELLANEOUS SALES						
SUB TOTAL ZONES						
59—GREAT BRITAIN						
TOTAL APPORTIONED						
TOTAL INDIRECT SELLING EXPENSE						
66—DIRECT SELLING (U. S. RETAIL)						
OTHER DIRECT SELLING						
TOTAL DIRECT SELLING						
TOTAL SELLING EXPENSE						
899—ADVERTISING						
65—ADVERTISING DEPT.						
TOTAL ADVERTISING						
GRAND TOTAL SELLING AND ADV.						

Figure 8

m 1180

Salesman's Route Information

Salesman_____ Week Commencing_____

TOWN AND DEALER NAMES	R-Ret. C-Can.	No. Mail Ord.	Pens	Pencils	Lead	Desk Sets	Man. Comp.	Credit Information	Industrial Sales	Remarks

Figure 9

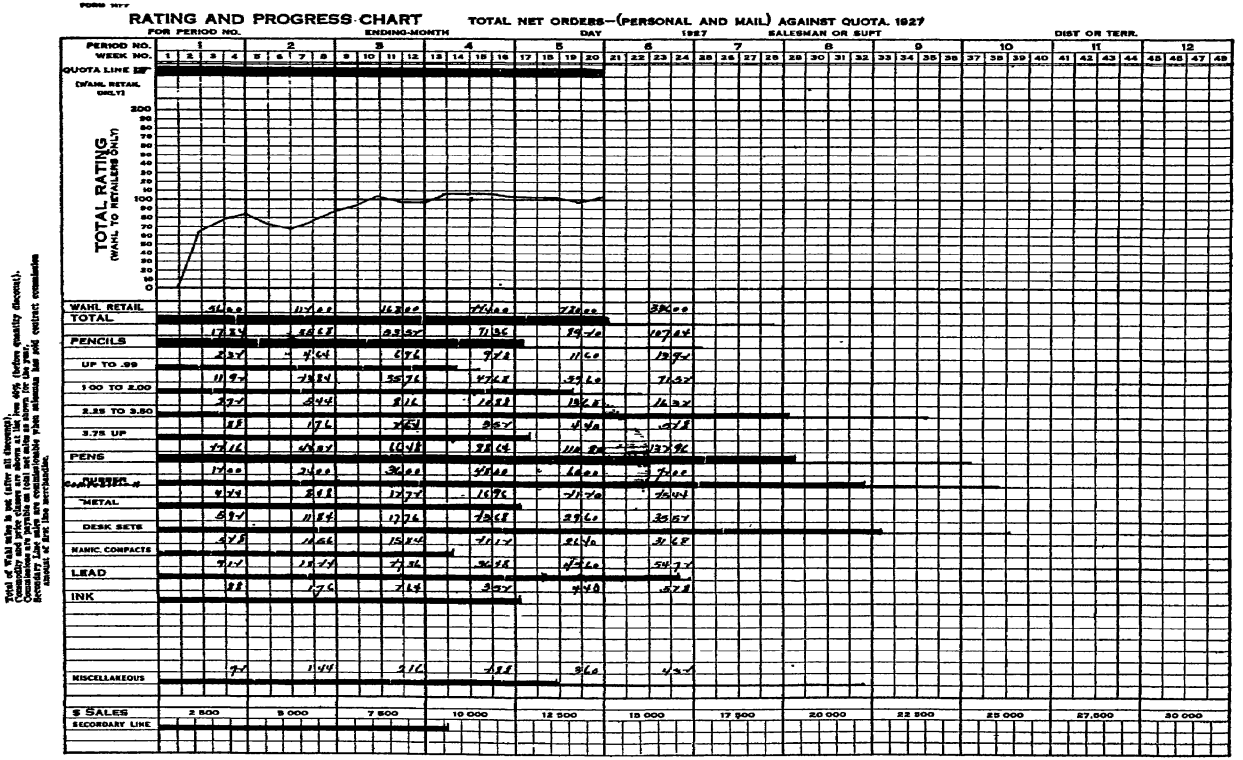
RATING AND PROGRESS CHART
TOTAL NET ORDERS—(PERSONAL AND MAIL) AGAINST QUOTA. 1927
FOR PERIOD NO.
ENDING-MONTH
DAY
1927
SALESMAN OR SUPT
DIST OR TERR.
PERIOD NO.
WEEK NO.
QUOTA LINE
(MAIL RETAIL ONLY)
TOTAL RATING
(MAIL TO RETAILERS ONLY)
WAHL RETAIL TOTAL
PENCILS
UP TO .99
1.00 TO 2.00
2.25 TO 3.50
3.75 UP
PENS
PUNCTO
METAL
DESK SETS
MANIC. COMPACTS
LEAD
INK
MISCELLANEOUS
$ SALES
SECONDARY LINE
2 500
5 000
7 500
10 000
12 500
15 000
17 500
20 000
22 500
25 000
27,500
30 000

Figure 10

FORM 1927

RECAP. SHEET FOR WEEK AND YEAR TO DATE

SALESMAN TO RETAILERS

SALES FOR WEEK NO._____ ENDING_____ 1927 SALESMAN_____ TERR. NO._____

COMMODITIES	SALESMAN'S GROSS SALES DAILY TOTALS									GROSS FOR WEEK				RETURNS AND CAN'S	TOTAL NET FOR WEEK	GROSS YEAR TO DATE				TO DATE			
	MON.	TUES.	WED.	THUR.	FRI.	SAT.				SALESMAN	MAIL	INDUSTRIAL TRANSF.	TOTAL			SALESMAN	MAIL	INDUSTRIAL TRANSF.	TOTAL	RETURNS AND CAN'S	TOTAL NET	QUOTA	% NET TO QUOTA
TOTAL																							
PENCILS																							
UP TO .99¢																							
1.00 TO 2.00																							
2.25 TO 2.50																							
2.75 UP																							
PENS																							
RUBBER																							
METAL																							
DESK SETS																							
MANICURE COMPACTS																							
LEAD																							
INK																							
MISCELLANEOUS																							
QUANTITY DISCOUNT																							
TOTAL EXCEPT LINE																							
PENCILS																							
PENS																							
MISC.																							

TOWNS WORKED — No. for wk. of SALES SLIPS — AMT. SALES

Wahl "Total Net for week" and "Total Net to date" are Net after all discounts.
All Daily Figures, "Gross Mail for week" and all Commodity and price class Totals are shown at list less 40% (before quantity discount).
Deductions for quantity discounts from net sales are shown at bottom of "Returns and Cancellation" column and deducted from Total Gross for week and year to date.
Commissions are payable on total net sales as shown for the year.
Secondary Line sales commissionable when salesman has sold contract commission amount of first line merchandise.

COMPARISON OF EXPENSES AGAINST BUDGET

WEEK

ITEM	ACTUAL	BUDGET	OVER OR UNDER BUDGET	% TO NET SALES
TRAVEL EXPENSE				
TOTAL EXP. INCL. TRAV. SALARY AND AUTO DEPR.				

YEAR TO DATE

ITEM	ACTUAL	BUDGET	OVER OR UNDER BUDGET	% TO NET SALES
TRAVEL EXPENSE				
TOTAL EXP INCL. TRAV SALARY AND AUTO DEPR.				

Figure 11

FORM 400

SALESMAN'S DAILY ORDER REPORT

NO. OF NEW ACCOUNTS
PENCILS _____ MANICURE COMPACTS _____
PENS—Rubber _____ LEAD _____
Metal _____
Desk Sets _____ INK _____

Place _____ Date _____ 1927
Salesman _____
Territory No. _____

Enter only those dealers for whom an order or "Call Report" accompanies this report. Check in "Sold" column those dealers for whom orders are included.	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	DEALER	TOWN AND STATE	TOTAL NO. OF ORDERS	TOTAL NO. OF SALES
Stocked																							TOTAL	
Sold																								
ORDER NO.																								
Quantity Discount																								
Qty. Dis. Rate %																								
TOTAL Before Qty. Dis																								
PENCILS																								
Up to 90c																								
$1.00 to $2.00																								
$2.25 to $3.00																								
$3.75 Up																								
PENS																								
Rubber																								
Metal																								
Desk, Sets																								
MANICURE COMPACT																								
LEAD																								
INK																								
MISC.																								
TOTAL SECONDARY LINE																								
SECONDARY PENCILS																								
SECONDARY PENS																								
SECONDARY MISC.																								

Figure 12

FORM 1169—

REQUEST FOR BUDGET CHANGE

Comptroller,

Please revise yearly budget for Department No._____Name_____

Change acct. No._____Name_____From $_____ To $_____

Change acct. No._____Name_____From $_____ To $_____

Reasons for Changes

Original Department Budget $_____

Revised Department Budget $_____

Increase or Decrease $_____

Signed, Signed, Approved,

DIV HEAD GEN. MANAGER

Figure 13

CODE

COUNTY STATE

	ITEMS		% COUNTY TOTAL TO U. S. TOTAL	COUNTY TOTAL	PENCILS	PENS			LEAD	INK	MANICURE SETS				SECONDARY ITEMS INCL. IN CAPS	MISCL.
						RUBBER	METAL	DESK SETS								
13	1922 NET SALES															
14	1923 NET SALES															
15	1924 NET SALES															
16	1925 NET SALES															
17	1926 NET SALES	1ST 6 MOS														
		LAST 6 MOS														
18	1927 NET SALES	1ST 6 MOS.														
		LAST 6 MOS.														
19	1928 NET SALES	1ST 6 MOS.														
		LAST 6 MOS														
20	1929 NET SALES	1ST 6 MOS.														
		LAST 6 MOS														
21	1930 NET SALES	1ST 6 MOS.														
		LAST 6 MOS														
22	1931 NET SALES	1ST 6 MOS														
		LAST 6 MOS.														
23	1932 NET SALES	1ST 6 MOS.														
		LAST 6 MOS.														
24	1933 NET SALES	1ST 6 MOS.														
		LAST 6 MOS.														

Figure 14

FORM 1128 REV—6-M—10-21-29

CODE

COUNTY

COUNTY STATISTICS

STATE

		COUNTY TOTAL	% COUNTY TO U. S.	
1	LITERATE POPULATION OVER 10 YEARS			
2	NO. OF INCOME TAX RETURNS			
3	PURCHASING POWER			
4	RETAIL OUTLETS			
5	CURTIS CIRCULATION			
6				
7				
8				
9				
10				
11				
12				
				50-A.

Figure 15

District Quota 1927

COVERING PERIOD OF____WEEKS

BEGINNING WITH WEEK No.____ DATED_____1927

AND

ENDING WITH AND INCLUDING WEEK No.____ DATED_____1927

SUPERINTENDENT DISTRICT NO.

TERR. No.	SALESMAN	GRAND TOTAL	PENCILS					PENS				MANICURE COMP'CT	LEAD	INK			MISC.
			Total	Up to 99c	$1.00 to $2.00	$2.25 to $3.50	$3.75 Up	Total	Rubber	Metal	Desk Sets						

THE FIGURES SHOWN ABOVE IS THE WEEKLY QUOTA BY TERRITORIES

Figure 16